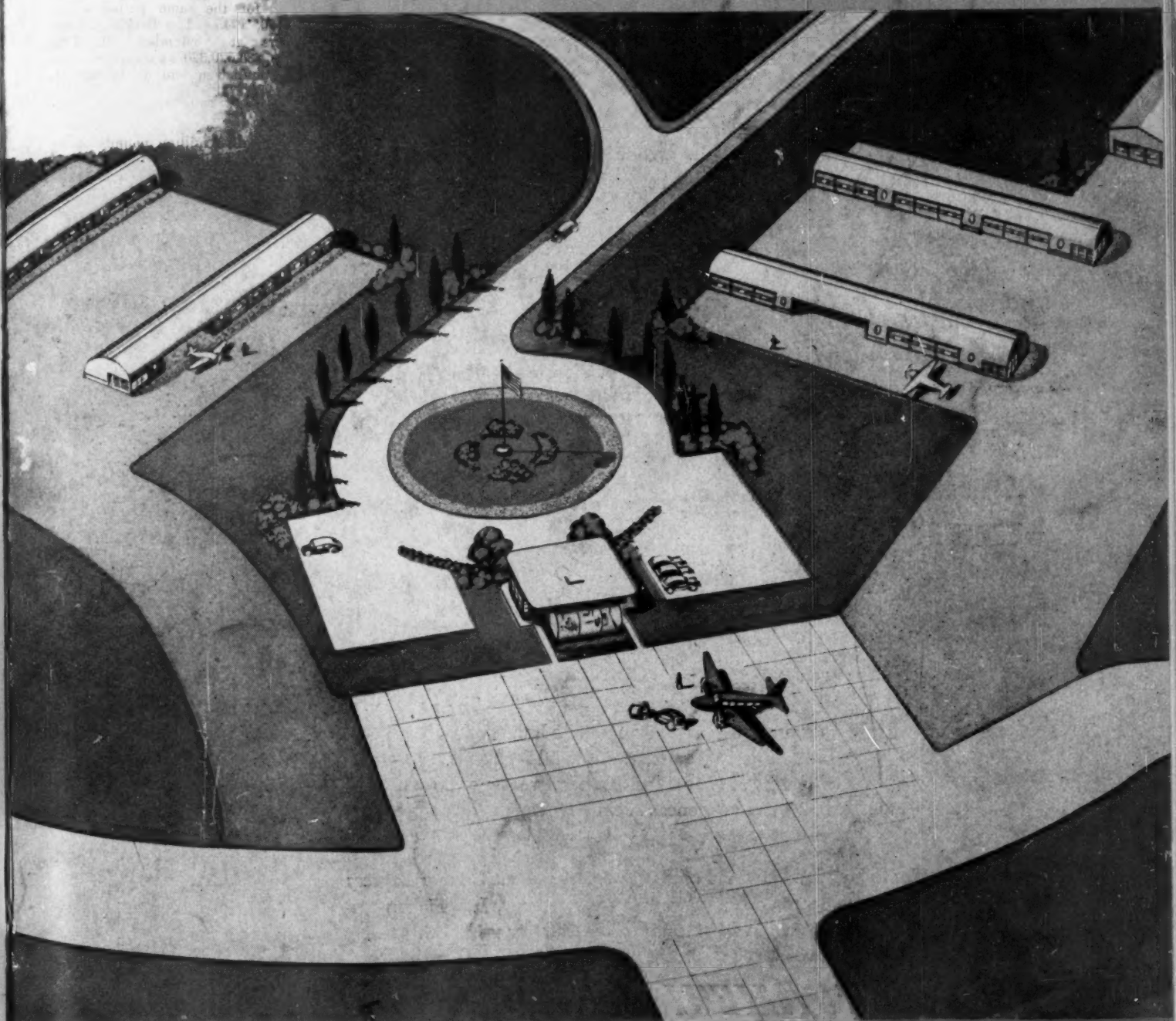
WORLD-WIDE

AIR TRANSPORTATION

(REG. U. S. PAT. OFF.)

MAR 15 1947

PORTS NUMBER



AIR CARGO ★ AIR COMMERCE ★ AIR TRAVEL

FEBRUARY 1947
Vol. 10 • No. 2

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Don't Play Down Terminal Facilities • Air Cargo Crossroads • There's Method at MacArthur Airport Development in the New York-New Jersey Port District • Should Airports be Specialized?

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AIR--X--PRESS

ELLIS PARKER BUTLER'S classic, *Pigs Is Pigs*, the story of the express agent who found more pigs in a shipment than he bargained for, was bound to have its modern counterpart. Especially with all the pets—puppies, pedigreed cats, spiny ant-eaters and such traveling in Air Express service these days. And so it happened one day recently, on a Toledo-New York flight. A valuable cocker spaniel, enroute to Mt. Desert Island, Maine, gave birth to a litter of four puppies as the plane sped toward New York. When the plane arrived at LaGuardia Field, a veterinarian examined the sky-born spaniels, pronounced them fit to continue their sky trip to Bangor. Transferred to rail express for the final leg of their trip to Mt. Desert Island, the proud mother and pups were given a royal sendoff by REA employes, as befitted the first recorded instance of a blessed event in air express service.

★ ★ ★

DOMESTIC AIR EXPRESS rode to new records in 1946 for shipments, weight and gross revenue. Shipments topped the three million mark for the first time in the 19-year history of the service, with 3,182,-053 shipments handled by the Air Express Division of Railway Express Agency for the regularly-scheduled airlines of the United States. It was a 48.2 percent gain over 1945. Weight of this airborne traffic was 46,694,966 pounds, up 16.3 percent for the year, while gross revenue gained 4.4 percent.

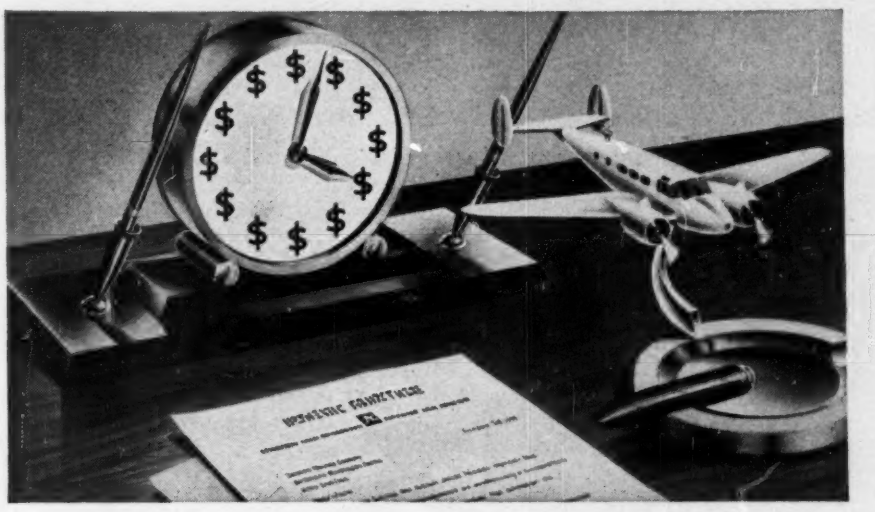
★ ★ ★

THE LEAF of a tropical tree grown in Florida was air expressed to Chattanooga, Tennessee recently to relieve a woman suffering from burns. Grown commercially by a Miami laboratory, it had been prescribed by a dermatologist. A gelatinous substance inside the double-billed leaf is said to possess unknown qualities which enable it to restore tissues. Within 24 hours after the shipment was delivered, the patient reported relief from pain.

★ ★ ★

INTERNATIONAL AIR EXPRESS traffic is flying high, wide and far away these days, as REA employes handling this fast-growing traffic at international airports can readily testify. Shipment volume set a new high record for the year 1946 as a total of 480,780 shipments were flown between the United States and foreign countries, for a gain of 47.3 percent over 1945. Some of the unusual consignments in recent weeks: A white faille wedding gown, air-expressed from New York to Vienna, for the Viennese bride of a Long Island soldier now with the United States Army forces in Austria.... A purebred Burmese cat, flown all the way from Rangoon, Burma to a San Francisco fancier, who in turn air-expressed the flying feline to a Milwaukee purchaser. . . . Flown to Africa from New York for research in tropical diseases were 12 mice, 12 rats, 12 guinea pigs, and 12 rabbits. A U. S. Public Health surgeon accompanied the strange cargo.... And a Ravenna, Ohio rubber company is air-expressing balloons to its European customers.

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HANGAR *Chatter*

THE press agent of the American Air Export and Import Company, more familiarly recognized as Aaxico, recently made known the fact that one of the airline's passengers gave birth to a strapping youngster while en route from Miami to San Juan, Puerto Rico. Now that it has been proved that a stork can overtake a transport plane, the ugly question rears its horrible head: "Is aviation really here to stay?"

* * *

Nor does the eventual application of jet propulsion in transport aircraft put our mind wholly at ease. We have known of cases where the long-legged bird turned up with supersonic speed, discharging its payload at least two months before E.T.A., much to the confusion and chagrin of sticklers for schedule.

* * *

The man-child of Mrs. Vega—the first to see the light of day aboard a plane—has a double distinction. No matter how you look at it, the Vega boy is both airborne and heir-born—and that's not double-talk.

* * *

In honor of the event, the Vegas are reported to have named their son Aaxico. We can visualize the press agents of the other airlines scowling over their cocktails and *hors d'oeuvres*, and cursing their ill luck that fate of this sort did not befall them. Why did it have to be Aaxico Vega? Why couldn't it have been American Overseas Jones, or Panagra Smith, or Capital-PCA Schermerhorn?

* * *

And we might anticipate from Kansas City the plaint: "Why not a Transcontinental and Western Heir?"

* * *

Now that the inevitable has happened, we can expect Pan American World Airways to seize the bull by the horns and install waiting rooms for expectant fathers in their yet-to-be-delivered giant transports, as well as co-pilot obstetricians. Pacing the floor in the ionosphere ought to be fun. Imagine a stewardess popping her head through the door and announcing in trained joyous tones: "It's a seven-pound boy at thirty-five thousand!"

* * *

The situation can conceivably affect the air freight business. An enterprising entrepreneur, whose air-shipped eggs were hatched aboard a cargoplane in the service of a certain San Antonio airline, would do well to advertise his metamorphosed consignment as Slick Chicks.

* * *

Taking its cue from the above, we feel almost certain that REA, far from being left behind, would immediately convene its vice-presidents and establish post haste an Air Eggspress Division. —*R. M.*

Vol. 10 No. 2

AIR TRANSPORTATION
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Feb. 1947

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THE COVER—***A typical American airport scene. This picture appears here through the cooperation of the Butler Manufacturing Company of Kansas City, Mo.***

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Napoleon Lost at Waterloo because he was tired!

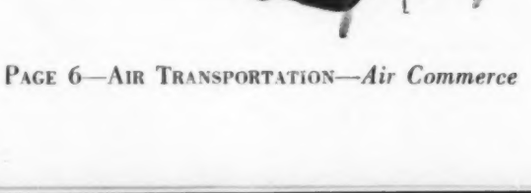
ON that hot June day 132 years ago, Napoleon surveyed the British legions across the Flanders Fields . . . but did not attack in force when the time was ripe. He had been riding all of the night before and he was very tired. Hence, his indecision and delay. Then Blücher came, and all was lost.

Thousands of American businesses doubtless have lost millions because of decisions arrived at and commitments made by tired executives who had spent days and hours in fatiguing travel prior to important business conferences.

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Don't Play Down Terminal Facilities

By JOSEPH D. McGOLDRICK
Former Comptroller
City of New York

You can't blame the airlines because the ground facilities can't handle today's volume of air traffic. But, says the author, they'll be to blame if they don't catch up within five years.

THE war has wrought a vast change in the living and economic life of our country. It taught millions of Americans to fly and to travel by air, and airborne goods are speeding along our nation's airways in constantly greater quantities. We now have an aircraft industry capable of producing an almost limitless volume and variety of planes. There is no doubt that the war, however horrible in terms of death, destruction, and waste, has accelerated the growth of commercial aviation by a decade.

The air transport industry is assured of plenty of business and the equipment to handle it, but it also has numerous serious and difficult problems confronting it. Much of its attention and resources must be devoted to increasing the safety and regularity of air travel.

As it seems to me, one of the biggest and most difficult problems which confronts the industry is the provision of ground facilities. This will be difficult for many reasons, but the most acute aspect of the problem is the time factor. Even under normal conditions it takes time to provide ground facilities. However, conditions today are anything but normal. (Completion time is now double what it was before the war.)

The year 1946 showed very little improvement, and the prospects for this new year are far from promising. The shortage of building materials will continue to be acute. Costs have risen sharply and are almost unpredictable. It is virtually impossible to get contractors to bid fixed prices, and therefore it is impossible to determine what a given amount of dollars will provide or what the cost of a particular blueprinted facility will be. This in turn makes economic calculation frightfully uncertain and financial planning difficult, if not impossible.

There are three types of ground facilities which the transport industry requires:

1. The flying field proper, *i.e.*, the runways, taxi strips and apron areas necessary to permit the kinds of planes



Joseph D. McGoldrick

with which the industry is equipping itself to land and take off.

2. The terminal facilities necessary for handling passengers, mail, express, freight and for housing the airline personnel required for these activities.

3. The hangars and shop operational facilities necessary for the mechanical servicing of the growing volume of flight equipment.

If we look more closely at these three types of facilities we observe that the field itself represents the maximum degree of common use. The hangars—at least those used by commercial airlines —represent virtually exclusive individual use. The terminal building and its related facilities stand between. Superficially it may appear to be for common use, but actually it serves principally the needs of commercial aviation. It is used by the airlines and their passengers, the relations and guests of passengers, and by a large number of spectators who come to see what's going on.

In separating these three needs for the purposes of this discussion I do not wish to ignore their interrelationship. A flying field without terminal facilities cannot handle the traffic, and unless the airlines have adequate hangar and shop facilities they cannot get the maximum utilization of the planes which they have ordered.

I am separating them because my concern is with the *economic* and *financial* problems which the provision of these facilities will involve.

I believe that the provision of the airport proper, or the flying field, must continue to be a public responsibility. It serves and will continue to serve many users. We might compare it to a harbor which is open to vessels of every size and purpose, but in offering this analogy I am not seeking to invite the pork barrel abuses which have characterized national participation in the harbor development program. Nor am I suggesing that airlines can hope to avoid paying their fair share of the cost which their use of the airport entails.

The problems of the flying field are approaching some degree of clarity. There is a growing body of agreement on the standards of airport construction and a growing body of technical literature sponsored by the Civil Aeronautics Administration, the Air Transport Association, and individual airlines that affords excellent guidance in such matters as the length and width of runways, the protection of the glide path and the pattern of the runways—at least for single and dual pattern airports.

Congress has now recognized that the provision of airports is a national concern. There is considerable disappointment among municipal officials in the proposed distribution formulas and the strings which the CAA proposes to tie to the new grants. For the moment it appears that the amounts available from this source will be considerably less than our cities had hoped for and some cities may be reluctant to accept so many liens and easements for so little help. Certainly many cities will have

far less money for airport development than they had been counting on.

One effect of this will probably be that very few cities will be in a position to provide hangars and shop facilities for individual airline use. Cities will continue to provide hangars for general transient use, but very few will provide them for individual airline use such as were provided at LaGuardia Field or Washington. There is a growing tendency to say: "If the airlines want hangars, they had better build them themselves."

But our cities, however, should not overlook the fact that the hangars are potent sources of local employment. Far from being a shed in which planes are brought in out of the weather, the modern hangar is a busy overhaul base. For every dollar invested in them, they provide a maximum return through their local payroll.

Since the terminal facilities are used primarily by the air transport industry, the industry must (in the long run) expect to pay for such facilities. There are some cities which are fortunate enough to have the money to build adequate terminal buildings. There are many others that do not have the money, and some, perhaps, that have the money but feel that there are other public needs which must come first. But even where the municipality builds the facilities, the airlines will be expected to pay for it.

There are some people in the industry who are appalled at the thought of the industry being called upon to assume this terminal responsibility. They are fearful that the very discussion of this matter may cause cities that could undertake to provide terminal to abandon the idea.

In these days of rapid communication and close association of mayors and other local officials, ideas spread quickly. Any new feature in airport leases is very quickly known to officials in widely scattered sections of the country. The fact that the airlines put up the money, or most of it, to build the new (and temporary) Chicago terminal was soon known in other cities. That arrangement broke the ice. Other cities wanted a similar pattern. It meant that the airlines would inevitably have to reexamine their relationships with cities. And it is something which I think they should think through very carefully.

Far from being a burden, this new financial relationship may prove in the end to be an asset. I do think that our cities, by and large, have done a particularly good job in planning and operating their airport terminal buildings. Having spent a dozen years in public office I think I know something of the strong and weak points in municipal government. I do not share the view that all government activity is inefficient. But running an airport terminal requires a promotional activity which municipal government is not well organized to provide. It is not easy for a municipality to provide venture capital. Yet that is precisely what is required in an airport terminal. The airport is a place that people want to go to not only to travel but to see what goes on. And the terminal building must exploit this opportunity. But to do so involves putting capital into restaurants and other facilities. A system of public bidding is essential in municipal government if serious abuses are to be avoided, although it is a poor method of selecting a restaurant concessionaire, for instance.

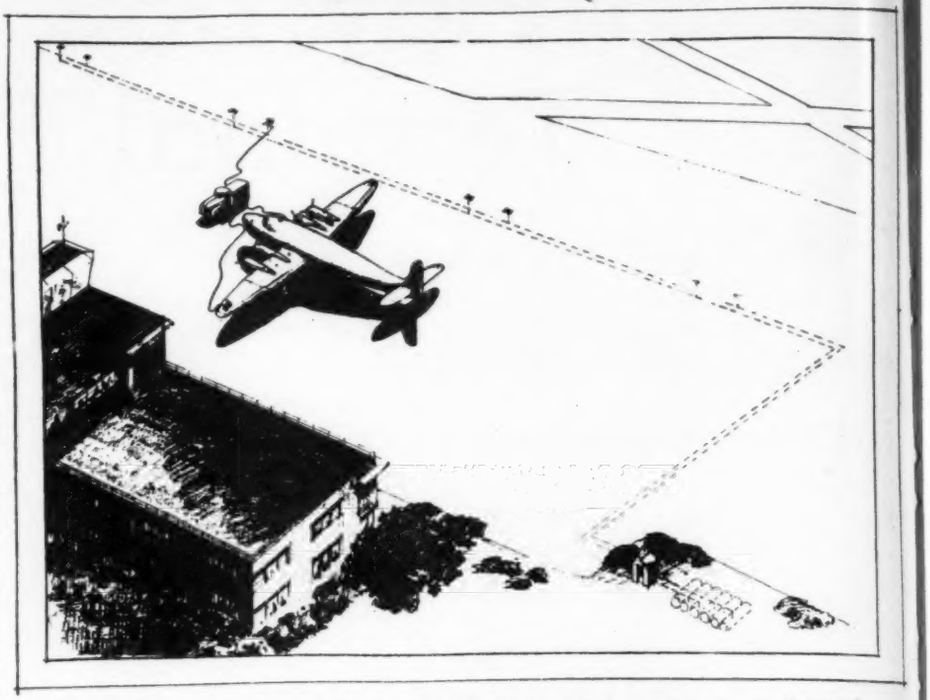
The terminal is a vital part of the airline operation. Air passengers sometimes spend almost as much time in the terminal as they do in the air. *It is far more important to put money into the terminal than it is to put it into resplendent downtown ticket offices.*

If the airlines are to undertake to finance and operate the terminal buildings they must give more thought to the functioning and design of such buildings. There is today no such agreement as to the layout of terminal buildings as there is with respect to runway specifications. There is a wide divergence of thinking between those who favor decentralization and those who lean toward centralization. The economic implications of both must be explored. I don't think this question can be resolved by debate. Rather a careful examination must be made of the two patterns at work. The new Chicago terminal, already partly in use and due to be completed about the first of the year, will furnish an example of decentralization. It would be instructive to compare its operation with that of the Washington National Airport.

It is essential that this and any other currently available experience be carefully analyzed before large investments are made in terminal facilities. And quite apart from this, it seems to me that prudence dictates that whatever is done in the next few years be kept extremely simple and flexible. The methods of ground operation are undergoing

(Concluded on Page 44)

SPEEDY REFUELING



This artist's drawing shows Esso's new simplified aircraft field refueling system designed to speed operations at any modern airport. Recently introduced at Moisant International Airport, New Orleans, the system utilizes a network of underground pipelines, connected to remote supply tanks, hydrants, and a hose-truck to deliver aviation fuel to waiting aircraft. Small compact pits containing feeder outlets kept under constant pressure are located at a number of points on the parking apron. Reports are that it has far outstripped in speed and efficiency present aircraft refueling methods. Only a few minutes are required to connect the hose on the truck to the hydrant nearest the plane. Gasoline is pumped into the plane's fuel tanks at the rate of 100 gallons per minute in each of two hoses—200 gallons per minute. When necessary to take fuel from the plane's tanks, a defueling pump device on the truck merely reverses the direction of the flow. The truck also contains air compressor and reel for air service, and space for canned motor oil.



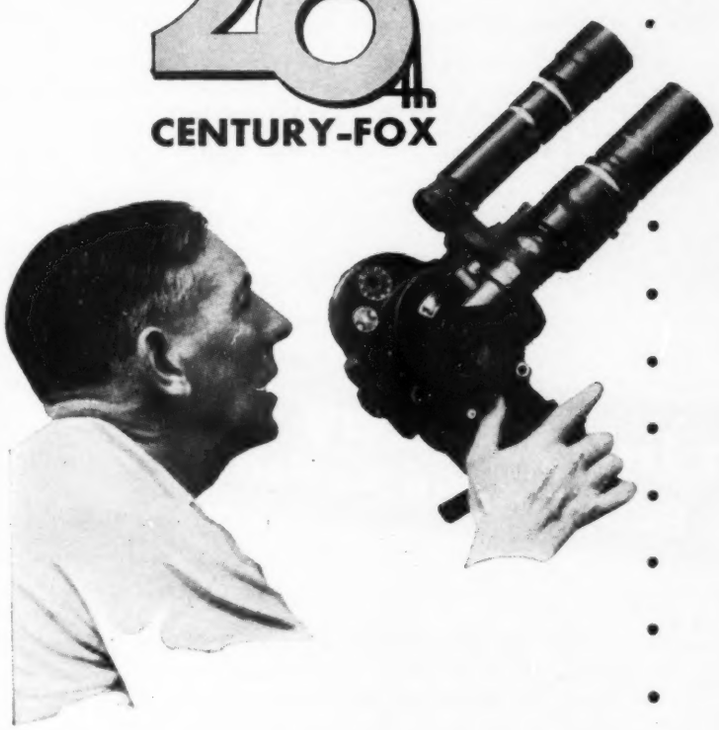
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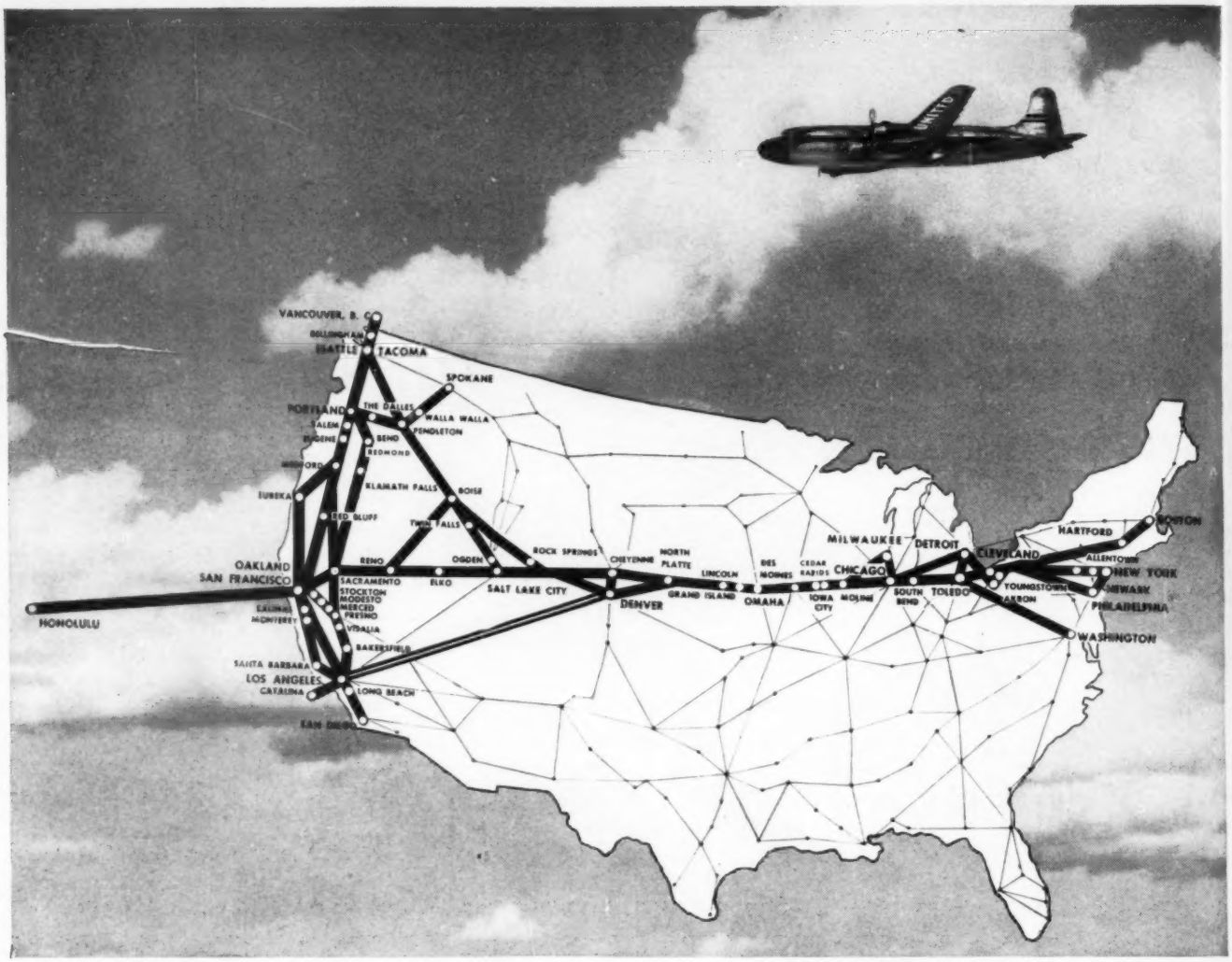
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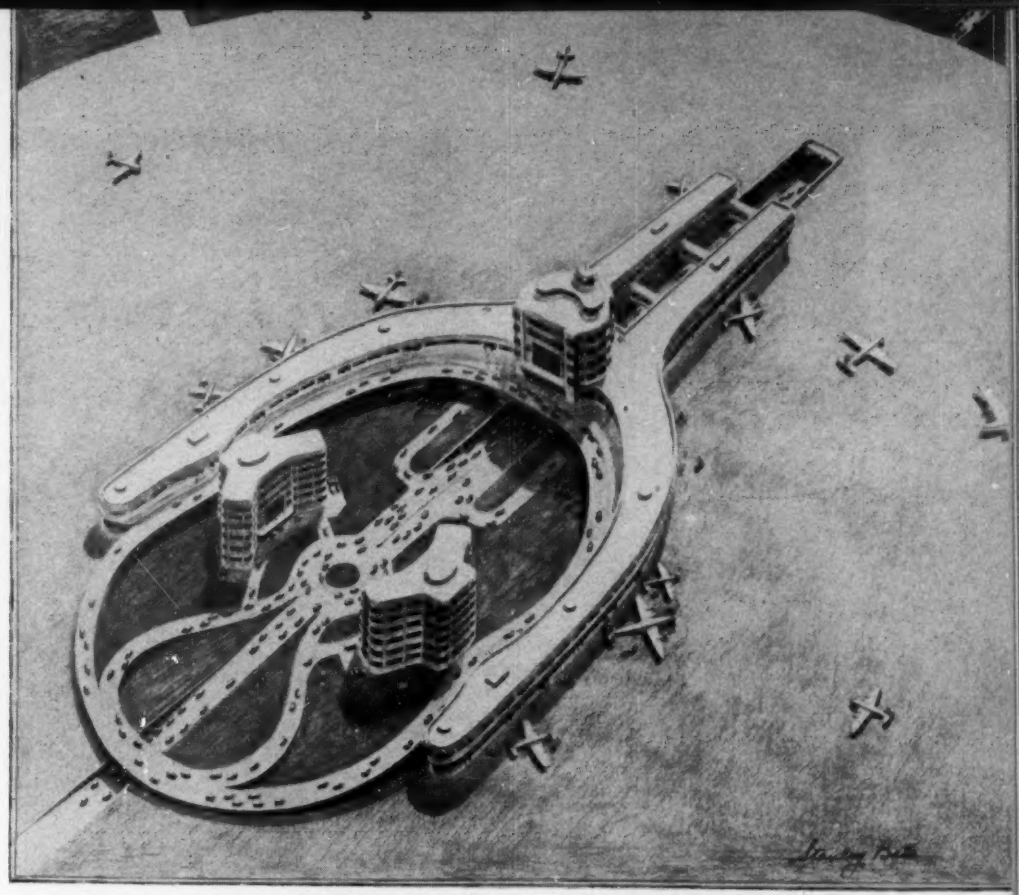
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Artist's conception of Idlewild's Administration Terminal area.

Airport Development In the New York-New Jersey Port District

By Howard S. Cullman

Chairman, Port of New York Authority

The Port Authority's Ambitious Airport Plan



Howard S. Cullman

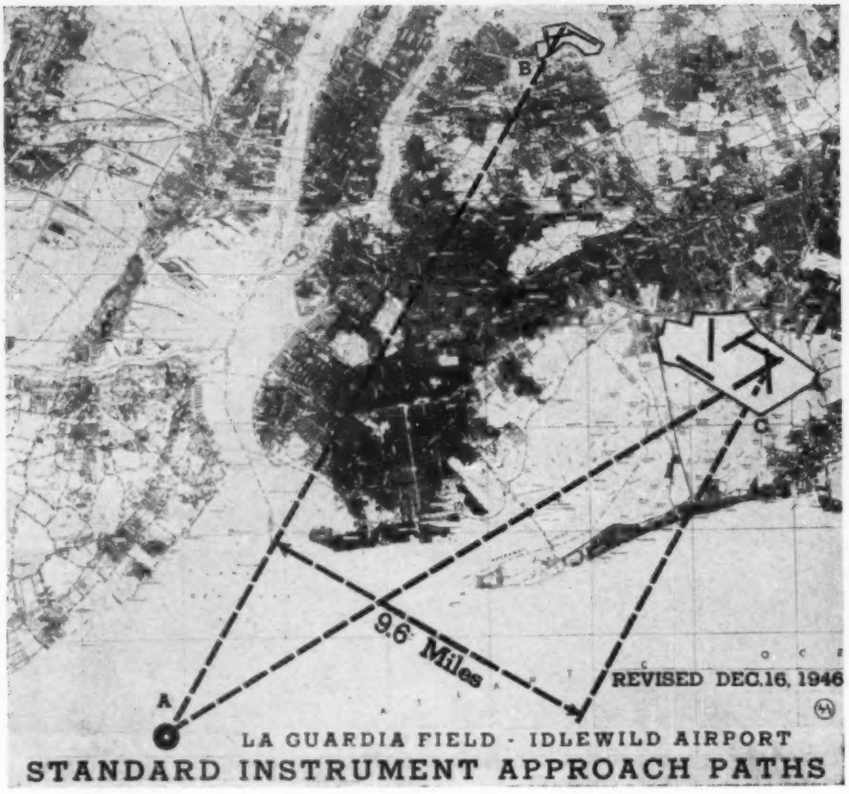
THE Port of New York Authority was created by treaty between the States of New York and New Jersey a quarter of a century ago, to unify and develop land, sea and air transportation facilities, and to promote the commerce of the Port District. During the first years of its existence. the Authority furnished the great bridges and tunnels which connect Manhattan with the New Jersey mainland. In addition, it owns and operates the Union Inland Railroad Freight Station and the Port Authority Grain Terminal. It has under construction the world's two largest union motor truck terminals, one in Manhattan and the other in Newark. It is prepared to furnish a union bus terminal in mid-Manhattan to help relieve the critical traffic situation, if the City of New York establishes a zoning policy making such a project economically feasible.

It is therefore natural that during the past year the cities of New York and Newark should have requested that we survey the possibility of financing, developing and operating the great airports in the metropolitan area of the two States.

It is obvious that if the Port of New York is to maintain its preeminence as a crossroads of world transportation, it must provide adequate ground handling facilities for air commerce, as it has already provided water and rail terminal facilities. At present the municipalities find the financial burden of developing and operating the airports in the Port District a budget load they cannot afford.

It is expected that by 1960 33,100,000 passengers will enter and depart from the major Port District airports on 911,770 scheduled planes. This means that in 1960 the airports here will need to accommodate 2,500 scheduled plane arrivals and departures a day. There can be no neglect and no belittlement of this important terminal problem.

Our staff and consultants, after months of study, have come to the conclusion that it will require the expenditure of $191,000,000 to complete Idle-



wild Airport and to improve and modernize LaGuardia Field without interrupting its service. The development of Newark Airport will cost $57,500,000. This required capital outlay of almost $250,000,000 would be financed by the Authority through the issuance of its own bonds, and the great port municipalities would be relieved of the enormous financial burden now imposed upon them by airport construction and operation. Under the Port Authority airport plan the three great fields in the metropolitan area of New York and New Jersey would be operated on a regional basis. This would, in effect, result in the establishment of a regional airport system. It would parallel the plan for a regional airport system for the New York metropolitan area developed by the airport conference, and approved by the Civil Aeronautics Administration. The Regional Plan Association in mid-December made known its support of such a plan.

In these days when the Hudson River is spanned in a split second by a plane flying across it, we cannot permit an imaginary state boundary line to act as a handicap to the development and efficient operation of ground handling facilities in the world's greatest center of transportation. The Port Treaty 25 years ago recognized the hindrance of a strictly local treatment of land, sea and air transportation in the Port District of New York and New Jersey. Considerable progress has been made in going forward with the development of land and sea transportation facilities on a regional basis. It now remains for a similar recognition to be given air transportation. Under the Port Authority's plan for the development of the New York City and Newark airports, the projects would be entirely self-supporting. This would be a major step forward in the development program for the nation's air terminal system. Operating without burden to the taxpayers, the airports of this eastern gateway to the world would set an example in the sound administration of one of our most vital industries.

Idlewild Plan

Our plan for the development of the 4,900-acre Idlewild Airport proposes the completion of seven runways. The 160-acre central terminal area would be developed with two great terminal structures placed one at each end of a central oval. These terminals would provide 42 plane-loading positions. The terminal planned by the Port Authority could be expanded as needed to 128 gate positions. Airlines have made such progress in joint terminal operations recently that reduction in the number of loading gates is possible.

Idlewild would have a tangential system of runways, providing for the possible increase in number to 12 runways. We doubt, however, that a 12-runway operation could be economically feasible. In fact, if it were not for the necessity of developing a new instrument runway, we would limit Idlewild to six runways. Runway C of the present plan is improperly placed, and our new seventh runway would correct that situation. To use Runway C for instrument landings, planes would be required to approach from the south on a radio beam which would branch off from the LaGuardia approach beam in the vicinity of Sandy Hook. This means that planes coming in during instrument weather would use the same path as planes bound for LaGuardia. This would drastically limit the capacity of the instrument approach. Our seventh runway would not conflict with instrument approaches to LaGuardia. This runway follows the recommendation of the Civil Aeronautics Administration.

The Port Authority would improve and modernize LaGuardia Field without closing it down during the construction period. Our engineers would keep the field in operation by filling in the southerly half of Bowery Bay immediately west of the present runways and north of the present international terminal. This filled-in bay would provide a foundation for an extended east-west runway. Through this expedient, three runways could be kept in operation while the faulty easterly end of the field was closed off for improvement. All of the existing hangars and terminal buildings would be accessible to the new runway system by supplementary taxiways.

The closing down of LaGuardia for a year or two, as suggested by Madigan-Hyland, the consultants for the City of New York, would be disastrous at a time when airport facilities are so vital to the welfare of air transportation, and of the whole metropolitan area. There would not be adequate runway, hangar and terminal capacity for scheduled airline operation without LaGuardia Field in 1948, 1949, and 1950, even with Idlewild, Floyd Bennett, and Newark in operation. The principal hangars, shops, and field offices of the airlines are at LaGuardia. These facilities should remain available to air traffic here.*

Our new central terminal area at LaGuardia would include the conversion of the present Pan American Airways hangar into a new terminal structure with a total of 17 plane-loading positions. The present central terminal building at LaGuardia would be converted to other uses, including a base for non-scheduled operation, a service center for hangar employees and various revenue-producing concessions.

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* Read *New York's Airports Headache* in September, 1946 AIR TRANSPORTATION.

(*Concluded on Page 20*)

FLYING COLORS! Even surpassing predicted performance, Martin 2-0-2 is passing tests in record time. The pilots say, ". . . more get up and go than any non-military plane . . . can't imagine any plane having better handling characteristics and more satisfactory stability, either directionally, longitudinally or laterally . . . new airfoil design proving most successful!"



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There's Method At MacArthur

OUT on Long Island—at Sayville—MacArthur Airport is due for big things in the general New York air transportation scheme. Situated in almost the exact center of the island with a field elevation of 100 feet msl, MacArthur is favored by unobstructed approaches and a flying weather average that is better than good.

It is owned by the Town of Islip, and encompasses about 2,300 acres, 1,700 of which have been cleared, landscaped, and provided with four 5,000-foot runways. The drainage system can handle periods of concentrated rainfall without difficulty. And as for snowfall, it is historically light in this part of the country. It was pointed out that during the past three Winters of MacArthur's existence there were only two days when flying operations were not possible.

Sperry is Pioneer

First to recognize the potentialities of the airport was the Sperry Gyroscope Company. In 1944 the company moved its Flight Research Department from United Air Lines' hangar at LaGuardia Field to MacArthur, saving thereby respectable sums in landing fees and fuel servicing charges, not to mention the savings attendant upon the regularity of flight operation—a question mark at LaGuardia because of traffic delays. It is estimated that in the first year of Sperry's operation at MacArthur, savings of approximately one-quarter of the operating budget were effected.

Lockheed Aircraft Service followed Sperry after the war. Last June it started construction of repair, overhaul, and warehouse facilities, designed to service the numerous transocean aircraft operating into and out of the New York area. Time soon proved that Lockheed had made no mistake. Since opening the base at MacArthur, it has serviced planes not only of its own manufacture but of others as well.

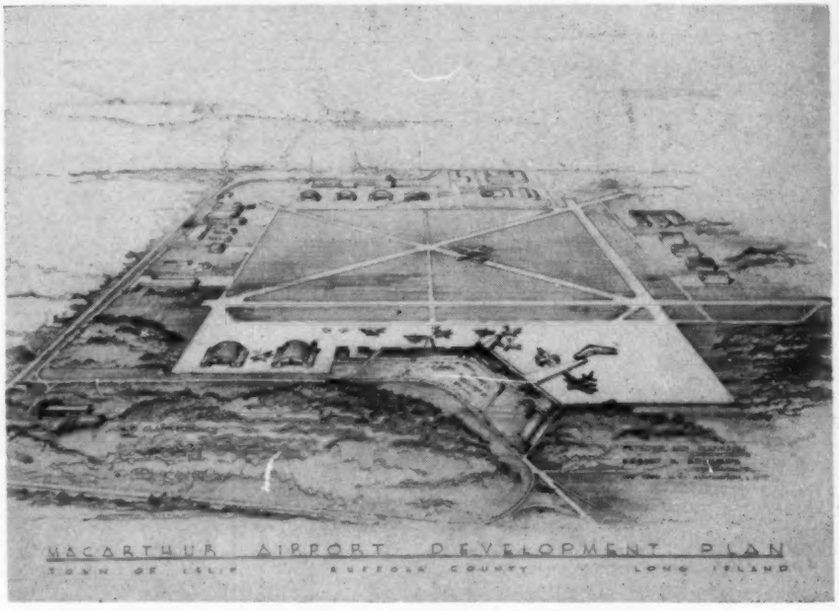
MacArthur is also the home of Island Air Ferries, Inc., presently an applicant before the Civil Aeronautics Board for routes which would take Long Island out of the "island class" and make it part of the mainland, "transportation-wise." Last Summer, Island Air Ferries operated an intrastate service, connecting several of the high-income resort areas of Long Island and hauling several thousand passengers.

At the present time, Pan American, American Overseas, and Air France are using the airport for transition and familiarization training for their trans-atlantic operations. Noteworthy is the fact that town officials permit no other type of training on the field, thus affording more training time per airplane hour than is available anywhere else in the New York area.

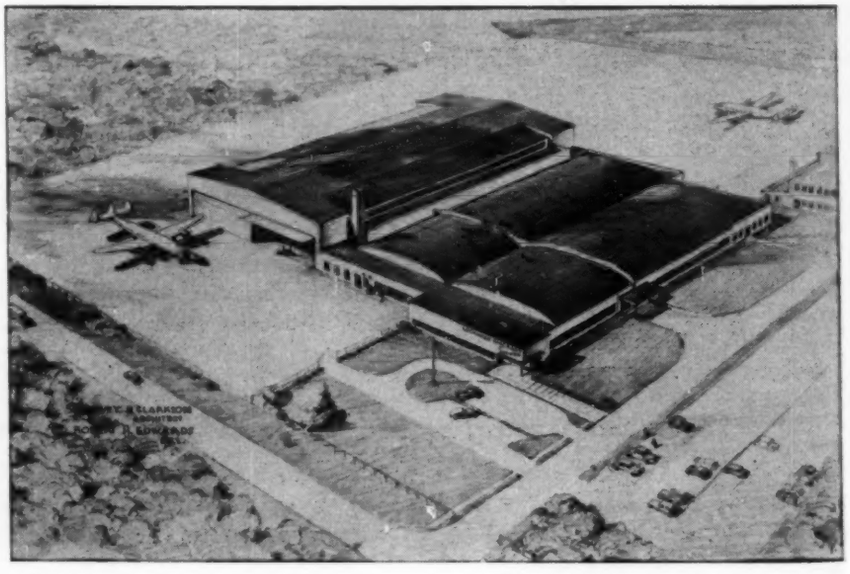
Landing fees? None at present at MacArthur—that is, unless the field's operating areas are used directly for commercial operations. Even then, if the operator purchased fuel and oil at the field, the landing fees are scaled down to a low figure.

Negotiations are underway to provide a port of entry designation for the airport as a terminal, coterminal, and alternate airport. Indications are that once this designation becomes the property of MacArthur Airport, several

(*Concluded on Page* 44)



GENERAL VIEW of MacArthur Airport. Below—the Lockheed Aircraft Service setup at MacArthur.





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Should Airports Be Sp

Would the development of special airports for passenger planes, air freighters, and personal aircraft, solve air traffic problems in large cities to a major degree?

G. D. ALBRECHT

Manager,
Memphis Municipal Airport
Memphis, Tennessee

STATISTICAL records at the Memphis Municipal Airport reveal that the traffic is much less than the present landing facilities can accommodate. It is highly possible that if the increase is continued at the present rate (based on operations from 1938 to 1946) that in the distant future a separation of passenger, air freight and private aircraft will be necessary, particularly private aircraft. It behooves the airport manager of a major airport to keep his finger on the pulse of the industry, and be ready with the development when the occasion arises, and not allow the telescoping as has been done in the past.

•

HOWARD E. CRUSH

Superintendent, Lunken Airport
Cincinnati, Ohio

THE speed and safety with which any volume of aircraft traffic can be accommodated on any airport depend not upon the ground facilities which could be developed on that airport, but upon the efficiency with which the traffic can be handled in the air space above that airport. Passenger planes, airfreighters and personal aircraft, in the vast majority of cases, have entirely different flying characteristics. A traffic pattern in which all three types of aircraft must be controlled cannot be handled with the maximum degree of efficiency, safety and speed. Since basically the most important advantage of air travel over surface transportation is the element of speed with its necessary safety and efficiency factors, the segregation of the different types of traffic is required to guarantee this advantage.

WOODRUFF DE SILVA

Director, Los Angeles Airport
Los Angeles, California

TODAY all the major airlines serving Los Angeles make their operations headquarters at the Los Angeles Airport, one of the most modern terminals in the United States. However, the facilities of this municipally operated airport do not end there. Many charter and taxi services, feeder lines, cargo carriers, and private aircraft also operate in and out of Los Angeles Airport.

Like any municipal airport linking its city with every other terminal in the world, it is one of the busiest centers of industry in the entire area it serves. It is only natural that as Los Angeles grows so grows its airport, and even now the city and the airlines are plotting building expansion for 1950. Even so, we are not ahead of the anticipated growth, only abreast of it. The war years necessarily retarded all such expansion and today the critical economic structure, as well as the era of shortages, is seriously crippling the building programs of foresighted city officials.

However, it is only reasonable to believe that as air traffic increases and the saturation point is reached in ground handling at a terminal airport, administrators will look toward a solution in airport specialization. For example, there is every indication that the private aircraft owner will leave the busy airline terminal as quickly as the private airport program is completed. Such a program is now being championed all over the United States by city, county and Federal government, as well as private enterprise. The personal pilot is inconvenienced and endangered by long taxi strips, delayed landings, and heavy, multi-engine air traffic.

Out of the many complex air traffic problems which confront all major air centers will arise a need for a program of public education through which the citizenry will come to realize that airparks and airstrips are not detrimental to property values, nor is the noise level in the vicinity of an airpark or airstrip any greater than that of a major boulevard.

It is unlikely however, that feeder lines, cargo carriers, taxi and charter services will ever remove their bases of operation from those of scheduled airline carriers because they are interdependent. For example, an airplane taxi service can bring air passengers to Los Angeles Airport in 15 minutes from the suburb of Santa Ana, while those same passengers would spend two hours driving through heavy automobile traffic to make connections with airline schedules. Such conveniences make it necessary therefore for these interdependent services to operate from the same terminal. Accordingly, it can be assumed that many of our airport problems will be solved by the demands of the flying public.

• •

JEAN H. DuBUQUE

Director of Aviation
Dallas, Texas

SIGNIFICANT development and growth in air freight operations throughout the nation is demonstrating more clearly each day the necessity for municipal aviation authorities to plan segregation of passenger and freight traffic. The transportation of air freight from airport to airport is only one phase of the movement from shipper to receiver. It is also requisite to efficiently combine the use of the aircraft with the motor truck and this requires specialized freight terminal service and ground handling equipment. With the ever-growing variety of freight even now being carried by air, it is considered imperative, for reasons of economy and expeditious service, to separate air freight and air passenger operations.

Be Specialized?

A SYMPOSIUM

The city of Dallas is presently preparing definite plans to provide terminal facilities on the opposite side of Love Field landing area for air freight carriers. These include loading platforms, storage space, hangars, offices and restaurant. From a long-range viewpoint, the installation of three dual runways, one in each quadrant to be used exclusively for air freight take-off and landing, is being carefully considered.

When air freight tonnage even begins to approach the tremendous quantity projected by its staunch advocates, the city of Dallas will be ready to develop an airport exclusively for this vital service.

•

NATHANIEL E. DUFFY

Director, Buffalo Municipal Airport
Buffalo, New York

MY opinion relative to the question would naturally be in the affirmative, but in doing this the average large city airport would suffer, temporarily at least, from the loss of mass operations which are so essential if it is going to be conceded that the larger airports should be self-sustaining. Therefore, I would say that such development is desirable and would solve air traffic problems in large centers to a major degree, but as of today, it would be economically unsound at all but a very few of our largest centers. This is particularly true because large passenger, express, mail and airfreighters require long runways, capable of withstanding heavy loads, and such a development would be very costly and difficult to justify while the average commercial operator insists upon using such facilities at rates which are considerably below actual operation costs.

Another factor which cannot be overlooked occurs in areas where snow removal is required. This adds considerable to the cost of operations. Due to the lack of public attendance during times of severe cold and heavy snow conditions, airports may be expected to lose revenue from concessions indoors and outdoors.

F. J. GENG

Director, Minneapolis-Saint Paul
Metropolitan Airport
Saint Paul, Minnesota

THERE is not much I could say in regard to the development of special airports at this time as to me it appears as though the industry is not stabilized in regard to air freight; no special type of air freighters are being used or available which might be operated more economically and bring the cost down at this time. However, when the time arrives when there is sufficient freight to warrant segregation, I believe the private plane operations create too many hazards where there is heavy airline traffic, and at the same time private pilots are very reluctant to use these ports if other suitable fields are available in that particular vicinity. Special conveniences, such as warehouses, loading and unloading equipment, in a particular area should be provided for air freight operations.

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BORIS GOLENKOW

President, Tri-City Aviation Service
Managing Agency, Millville Airport
Millville, New Jersey

MY opinion is to concur with the idea that development of special airports for passenger planes, airfreighters and personal aircraft would solve to a large degree the current problem pertaining to air traffic in large cities. In fact, I believe this so much that I have endeavored to develop Millville Municipal Airport along these lines, to the extent that I have even interested a trucking outfit to locate their business on the airport so that airfreighters would have the best possible accommodations for the handling of their cargo. From experience we know that freight landed within a radius of 100 miles from, say, New York, could be forwarded to its destination in the same time as it would be were it landed at LaGuardia or Newark Airport, and at less cost. The reason for this is probably obvious. Here at Millville there is no congestion and no waiting.

With the redesignation of the airways by CAA, which has just gone into effect, my thought is that air traffic will, of its own accord, so segregate itself as to use various airports in the vicinity of New York for specialized cargoes.

•

HERVEY F. LAW

Administrator
Washington National Airport
Washington, D. C.

IN answering the question, there are several conditions to be considered in this problem:

1. The airways traffic problem in the area of the large city under consideration. This airways traffic problem has a considerable bearing on whether there should be separate airports to serve different types of aircraft mentioned in the question.

2. The existing ground-highway network or the possibility of the construction of an improved ground highway network to properly serve the different airports being considered as it would be necessary to have an integral ground transportation system between the various airports.

3. The economical consideration of terrain surrounding the large city as to the possibility of reasonable construction costs of the various airports.

If all three of the considerations mentioned above can be worked out satisfactorily, then in my opinion it would greatly relieve the airport rather than air traffic problems in a large city to a major degree if separate airports were constructed to handle the scheduled air carrier passenger planes, airfreighters, and personal aircraft.

As time goes on it becomes more apparent that a large city must have a series of airports to properly handle the scheduled air carrier operations under instrument conditions. These airports, which would serve the airlines under instrument conditions, should be separated sufficiently so that air traffic into and out of these various airports will not interfere with one another under instrument conditions.

Along the Eastern Seaboard approximately 80 percent of the time is con-

tact weather while about 20 percent of the time is weather requiring instrument operations.

From an economic standpoint it would be well to combine the above uses at each of the various airports, except one on which would be concentrated the majority of contact scheduled air carrier operations, with other airports being available as alternates for use by scheduled air carriers during periods requiring instrument flight operation which periods would cover approximately 20 percent of the time.

During the other 80 percent of time the other airports cou'd be used specifically for air cargo operations, non-scheduled operations, charter operations, and for the use of personal aircrafts. As an example, let us say that a large city had four airports suitable to handle the larger planes used by the scheduled air carriers.

Airport A would be used the majority of time exclusively by the scheduled air carriers under contract operations, with B, C and D as auxiliaries during the instrument period.

Airport B could be set up for use of air cargo and non-scheduled operation, airports C and D for personal aircraft use; or, airports B, C and D could be used for air cargo, non-scheduled charter and personal use, depending upon the location to the center of the large city.

Also another use for these auxiliary airports would be service and repair centers, keeping the service and repair bases at airport A, which is mainly used for scheduled air carriers, to a minimum.

If this system were used, I feel that the airport traffic problems in large cities would be improved to a major degree.

●

UNITED STATES AIRPORTS

State	Total	Type of Operation					Size Classification				
		Commercial	Municipal	CAA Intermediate	Military[1]	All Others[2]	Sub I[3]	I	II	III	IV & Over
Total	4,306	1,760	1,339	209	831	167	496	1,301	1,178	488	843
Alabama	72	18	13	2	24	5	4	18	17	13	20
Arizona	101	30	26	10	21	14	5	21	37	12	26
Arkansas	66	34	15	1	12	4	12	15	16	7	16
California	328	125	69	12	98	24	30	87	84	30	97
Colorado	74	31	29	2	9	3	8	19	31	5	11
Connecticut	24	14	7	1	2	0	1	14	0	4	5
Delaware	11	7	1	0	3	0	1	3	4	0	3
Dist. of Col.	3	0	0	0	2	1	0	0	0	1	2
Florida	203	26	42	4	127	4	2	32	39	57	73
Georgia	102	29	23	9	37	4	10	20	21	16	35
Idaho	67	13	36	5	3	10	11	26	17	6	7
Illinois	126	72	19	5	21	9	13	40	53	11	9
Indiana	98	48	19	2	28	1	11	25	41	8	13
Iowa	97	59	31	4	2	1	17	39	32	3	6
Kansas	140	50	53	3	31	3	19	57	28	12	24
Kentucky	24	10	8	2	4	0	1	6	8	4	5
Louisiana	56	17	17	4	17	1	6	14	15	4	17
Maine	47	21	20	0	6	0	8	14	6	10	9
Maryland	37	23	4	1	8	1	4	11	9	5	8
Massachusetts	60	37	12	1	10	0	17	14	11	8	10
Michigan	168	52	96	1	13	6	12	73	54	14	15
Minnesota	75	33	38	2	1	1	8	37	20	4	6
Mississippi	61	17	23	6	14	1	3	13	16	15	14
Missouri	96	45	25	8	15	3	11	32	28	13	12
Montana	97	14	54	13	1	15	14	31	31	9	12
Nebraska	67	23	26	5	13	0	8	21	18	2	18
Nevada	45	13	9	9	12	2	4	11	6	6	18
New Hampshire	22	10	11	0	1	0	5	6	4	4	3
New Jersey	58	41	8	0	8	1	5	24	19	4	6
New Mexico	80	22	26	10	13	9	7	18	23	7	25
New York	181	118	40	4	13	6	44	71	27	20	19
North Carolina	111	61	23	1	25	1	28	32	15	15	21
North Dakota	47	11	30	6	0	0	3	17	18	3	6
Ohio	147	101	32	6	6	2	23	46	57	13	8
Oklahoma	148	60	48	3	36	1	19	56	37	12	24
Oregon	74	26	35	5	9	1	9	17	17	12	19
Pennsylvania	155	106	37	3	7	2	25	72	36	13	9
Rhode Island	8	4	1	0	3	0	3	1	0	2	2
South Carolina	61	15	22	2	20	2	6	17	11	6	21
South Dakota	35	10	19	1	5	0	1	13	11	2	8
Tennessee	38	12	14	7	4	1	2	4	15	6	11
Texas	406	163	117	23	90	13	36	97	128	48	97
Utah	41	5	23	8	3	2	1	12	10	7	11
Vermont	12	3	9	0	0	0	1	6	1	4	0
Virginia	81	38	19	4	19	1	8	31	19	8	15
Washington	106	34	41	3	21	7	15	28	22	8	33
West Virginia	32	18	11	2	1	0	7	7	12	3	3
Wisconsin	78	37	37	2	2	0	8	25	34	8	3
Wyoming	40	4	23	7	1	5	0	8	20	4	8

[1] Includes Army, Navy, Army operated and Navy operated airports (the last two are commercial and municipal airports taken over by the Army or Navy during the wartime emergency).
[2] Includes private and miscellaneous government airports.
[3] Indicates airports which exist but do not come up to Class I standards.

P. H. ROETTGER

Superintendent, Weir Cook Airport
Indianapolis, Indiana

I DO believe that the construction of airports designed specifically for each of the three categories would certainly solve the present air traffic problems at large cities. Certainly, there is no place on the large airports for personal aircraft. Such aircraft do not normally require larger airports or the expensive air traffic control systems. I do not believe it would be either economical or practicable to construct separate airports for passenger carriers and air freighters in the case of average larger cities. Possible exceptions may be made to cities such as New York, Chicago and Detroit. In such cases, airports for air freighters may be built further distant from metropolitan areas to prevent interference in traffic problems and instrument approach systems. This, of course, would tend to discourage short distance shipments by air.

The Civil Aeronautics Administration has developed an Instrument Landing System after much experimentation and research. This system is not considered entirely foolproof, due to the human element. Although it has been installed on most of the large airports, it is not being put to practical use. I believe that the Instrument Landing System and dual runways will tend to solve the air traffic problem at most of the large airports

The Weir Cook Municipal Airport of Indianapolis has open glide angles, rated 40:1 or better, and the highest obstructions within a five-mile radius are a few 75-foot trees. Yet, the weather ceiling for this field is 500 ft. We may consider that, if the Instrument Landing System were put into practical operation, it would eliminate holding over fan markers for ceiling changes and expedite handling of air traffic, thus making it unnecessary to construct separate facilities for some time in the future.

HOWARD M. SHAFER

Manager,
Wilkes-Barre-Scranton Airport
Avoca, Pennsylvania

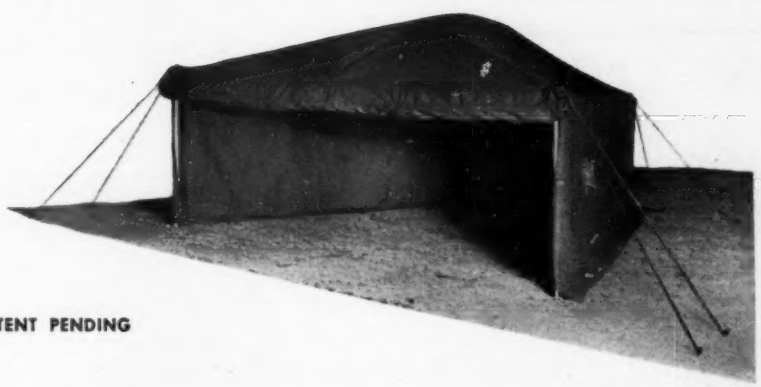
SEGREGATION of air traffic and its related ground traffic is of distinct benefit in the operation of a large air terminal. Providing a separate terminal area for passenger planes and airfreighters increases safety and cuts operational delay to a minimum. Limousines and freight trucks are not converging on the same terminal point and truck to plane transfer is necessary to expedite fast and economical loading of airfreighters. Personal aircraft might under these conditions provide an overload to an already saturated traffic pattern and ground facility. An airport much smaller than the large terminal airport with greater accessibility and better relationship to the mid-town or residential areas of a city is desired. They will remain the largest single factor in aviation. Representatives of scheduled passenger and cargo operations and personal aircraft owners

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generally prefer segregation, as the objectives in airport design result in a large terminal airport being exclusively dedicated to scheduled operations.

FRED SMITH

Manager, MacArthur Airport
Bohemia, Long Island, New York

IN my opinion, the development of special airports for the several types of aircraft would do much to solve the current air traffic problems which now beset several of our larger cities.

I would, however, segregate this traffic by allowing only certificated scheduled and non-scheduled air operators the use of terminal fields, with exceptions granted to executive transport airplanes and those used in connection with a business, upon prior permission and notice.

I have never felt that the personal airplane, unless it falls under the classifications and exceptions in the paragraph above, should be granted use of airports whose first purposes can only be described as a public utility. These planes have no more business at such airports than yachts have in a busy marine terminal.

Airports are terribly expensive places to maintain in a condition necessary to the regular movement of persons and products essential to the nation's business. On a commercial airport only planes engaged in such commerce can, or should be required to pay for their share of this expense.

At the moment, I feel that specific policy on this question is strictly a local one, and should be so decided.

There is no difference between air traffic's solutions, so far as volume is concerned, at any of the airports in the whole United States; research will show that traffic varies in direct ratio with overhead at any of them, there being few exceptions. Personal airplanes, not being "producers," should not appear on high-overhead 'ports or traffic patterns unless they have a direct contribution to make both to the 'port, or to the business which forms the prime reason for that airport's existence and upkeep.

I do not think that anyone willing to pay his own way will disagree with this opinion.

SIKORSKY HONORED



Igor I. Sikorsky (above) has been awarded the gold medal of the Federation Aeronautique Internationale for outstanding aeronautical achievement in 1946. The medal is awarded "to those who in the course of the preceding year, ending December 31, shall have contributed exceedingly by their action, their work, their performance, their initiative, or their zeal, to the progress and development of aeronautics." The award, first made in 1925 to General Francesco de Pinedo of Italy, was presented annually until Jean Batten of France was honored in 1937. Due to the war, the medal was not awarded again until Sikorsky's nomination in 1946. Previously, the United States has been represented only by Colonel Charles A. Lindbergh in 1927 and Wiley Post in 1933.

PAA New York-Miami 60-Day Excursion

Pan American World Airways has established a $150 60-day excursion fare between New York and Miami, via San Juan, and intermediate points, effective February 13. The new excursion rate permits stopovers at San Juan, Ciudad Trujillo, Port au Prince, and Camaguey. It can be taken from New York or from Miami.

AIR TRANSPORTATION Books

AERONAUTICAL FACILITIES FOR METROPOLITAN AREA OF CHICAGO—(*General Airport Company, Stamford, Connecticut; 239 pages*). A study and analysis of aeronautical facilities for the Chicago metropolitan area, projected to 1955 and 1970, made for the Department of Aeronautics, State of Illinois. A thorough job.

SCIENCE AND LIFE IN THE WORLD—(*Whittlesey House-McGraw-Hill, 330 West 42d Street, New York; $7.50*). The George Westinghouse Centennial Forum in three volumes, covering *Science and Civilization; The Future of Atomic Energy; Transportation—A Measurement of Civilization; Light, Life, and Man;* and *A Challenge to the World.*

GAS TURBINES AND JET PROPULSION FOR AIRCRAFT—BY G. GEOFFREY SMITH. (*Aircraft Books, Inc., 370 Lexington Avenue, New York; 256 pages*). The fourth edition of an all-inclusive work. Profusely illustrated.

AIR TRANSPORT AT WAR—BY REGINALD M. CLEVELAND. (*Harper and Brothers, 49 East 33d Street, New York; 324 pages; $3.50*). You heard plenty about the fighter and the bomber during the war, but not nearly enough of the ATC and the NATS. Here's the lowdown on a grand job which made history. The foreword is by General Harold L. George.

CITY ON THE POTOMAC—BY HARRY L. DE VORE, JR., and MARTIN YOSELOFF. (*Beechurst Press, Inc., 116 East 19th Street, New York; 113 pages; $4.00*). The nation's capital in pen and ink by De Vore and narrative by Yoseloff. Second in the *Cities of America* series, it is both commanding and interesting. A natural for the air traveler.

Airport Development in the N.Y.-N.J. Port District

(*Continued from Page* 12)

The present airport at Newark will be obsolete within five years because of inadequate runways and terminal installations. The Port Authority would construct a completely new airport with six runways in an open-parallel, dual-runway system capable of handling an approximate peak-hour capacity of 120 planes, or about three times the number that can be accommodated now. There would be no interruption of service. The present 1,400-acre field would be expanded 800 acres, extending into the City of Elizabeth. A 76-acre central terminal area would provide at least 40 plane-loading positions. The terminal building would be 15 times the size of the present administration structure.

In order to make the three great airports self-supporting, and for the accommodation of the airline passengers, visitors, and the vast working population of the facilities, the Port Authority would provide shopping and recreation accommodations at the fields. There would be restaurants of all kinds, ranging from terraced pavilions, similar to the French Pavilion at the World's Fair, to cocktail lounges, family restaurants, coffee shops, cafeterias for the public and employees, lunch counters, snack bars, soda fountains and "meals aloft" for airplane service. There would be branch banks, tobacco and newsstands, souvenir, florist and gift shops, barber and beauty shops. Vending machines would be an important source of revenues, and, at the same time would offer convenient services to the airport population. Lockers and checkroom service, parking garages and parking lots, would be important concession developments. Idlewild would pioneer in airport hotel and office accommodations. There would be service stations, repair shops and an intermural bus system. Land rentals would also contribute to the revenues.

Santa Fe

"Stand-by Service" for Air Transport



Santa Fe, one of America's great transportation systems, is offering to expand the scope of its public service by establishing an air operation to carry mail and freight in Santa Fe territory. Applications for that purpose have been filed with the Civil Aeronautics Board.

As far back as 1928 Santa Fe recognized the importance of air speed as a vital factor in our national transportation system and participated in the country's first "air-rail" service.

Since then, Santa Fe has done much in furthering the interests of America's air transport system.

"Ground Facilities"—Ready and Willing

Fortunately, Santa Fe's long leadership in serving the vast West and Southwest provides the right locations and a physically up-to-date and "going" plant on which to build, quickly and efficiently, a complete "stand-by service" for air transport.

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Santa Fe provides such advantages as the greatest fleet of diesel power in railroading, giant diesel trucks and trailers readily available at strategic points, America's largest private communications system, ample station and warehouse facilities with modern handling devices all along the line.

In addition, 70,000 Santa Fe people have the real "know-how" of getting freight from its origin to its destination, faster, more carefully, more safely.

That's why we say, in co-operation with air transport, too . . . *Santa Fe—that's the system.*

Santa Fe

SANTA FE SYSTEM LINES
Serving the West and Southwest

Air Cargo-Conscious Britain

By Courtenay Edwards
London Daily Mail
Air Correspondent



Cargo loaded into the nose of the Bristol Freighter

Britain has recognized air freight and it means to keep abreast of the field

IN a small London office an ex-RAF officer and a former United States fighter pilot are planning a tramp service of the air.

Starting early in 1947, they hope to operate a fleet of cargo-carrying planes which will ply for hire all over the world. These flying boxcars will work to no fixed schedule but will fly wherever there is business to be picked up.

One of their airfreighters might start from Birmingham with a load of machine tools urgently needed by a factory in France. In that country it might be chartered to fly a cargo of perfume to, say, Turkey. It might arrive there just in time to fly on to India with a party of business men who wanted to get there in a hurry.

When they leave England these "free lance" airfreighter crews will have to go prepared for anything. They might be home the following day; they might be away for weeks, flying halfway around the world and back.

"We shall aim at following the sun around," Captain Douglas Conner, chairman of Global Aviation, Ltd., told me. "We hope to keep our cargoplanes fully employed by dodging the European Winter, moving south to some extent during the bad flying months."

Global Aviation's plan for a tramp service of the air is one of many signs of a big expansion in commercial cargo-carrying by air. Regular freight services across the Atlantic are forecast for the near future — when suitable planes are available. The possibilities of such a service were demonstrated when six racehorses were flown from Eire to California in a four-engined *Skymaster* chartered from American Overseas Airlines and specially fitted up as a flying horse-box.

International Shipments

There is big scope, too, for regular air freight services between the European capitals. KLM, the go-ahead Dutch airline company, has made a start with a daily cargo service between London and Amsterdam. They have taken across to the Continent a variety of British livestock, including pigs.

In the United States, a country which was slow off the mark in the air freighting field, there are now a number of regular air cargo services. In England, as elsewhere, the lessons of the wartime transportation of huge volumes of military supplies by air have been well learned. Recent American experiments in carrying cattle by air include the flight of a Jersey bull calf and two heifers from Newark to Athens, Greece; 52 racing greyhounds were flown from Miami to Boston. Ten Guernsey calves took wing from New Jersey to Colombia, in South America, doing the journey in 24 hours compared with 57 days by sea.

In comparing air cargo charges with surface transport costs you must make allowance for the big economies conferred by the flying boxcars in such items as insurance, packing costs, the idleness of market goods in transit, and the breakage rate. With perishable freight, of course, and fashion goods governed by short-lived vogues, air freighting wins every time.

In both Britain and the United States the great bulk of cargo-carrying has so far been done by charter firms. Already, the American non-scheduled cargo-carriers use almost as many planes as the regular passenger lines. One expert predicts that by 1950 air cargo will have reached an annual total

(*Concluded on Page 46*)

Action NEEDED

This is an editorial which wrote itself.

When the establishment of an annual National Aviation Week was first suggested by John F. Budd, the issue was deliberately left up to any one or a combination of national organizations to catch the forward pass and run with the ball. Since that time commercial aviation has taken on a new, grimmer aspect, which calls for immediate and constant public relations of the highest psychological order.

National Aviation Week, as originally designed, fits this demand as easily and naturally as though made to order. It would be a full week during which the official representatives of the scheduled and non-scheduled airlines, plane and equipment manufacturers, business and civic organizations, the Army and Navy, and institutions of education would join forces to bring home the impact of aviation on our social and economic make-up. Had such a program been launched last year, air transport crashes would never have been permitted to overshadow the fact that 1946 was one of the safest flying years in aviation history.

It is well known that after the elaborate National Aircraft Show in Cleveland last September, it was the consensus of opinion among members of the aviation press that the industry could have been better served by a device reaching all of the people. At least two outstanding writers—Wayne Parrish and Gill Robb Wilson—supported the idea of a National Aviation Week as the proper means.

There is definite approval of a National Aviation Week. The rest of this page is devoted to some of the many letters received by Air Transportation Magazine on this subject. The only other suggestion we have is action.

From James M. Landis, chairman of the Civil Aeronautics Board:

"I believe that the establishment of a National Aviation Week is a splendid idea, and I am in favor of it. In my opinion, a properly sponsored and supported National Aviation Week would serve to focus widespread public attention on the military significance and civil development of aviation. It is militarily and commercially vital to our national future that we have an informed public, fully aware of the tremendous possibilities inherent in aeronautics. A National Aviation Week is one way of helping to accomplish that education."

From Oswald Ryan, vice chairman of the CAB:

"A National Aviation Week, as proposed by Mr. Budd . . . is a sound suggestion. As he points out, similar plans have been carried out for the benefit of isolated portions of the industry, but the far greater possibilities of an all-inclusive national campaign remains to be tapped. There could hardly be a more propitious time for the launching of this campaign. . . A proposal as promising as Mr. Budd's deserves the support of every air-minded American. You can be assured of my keen interest and active support."

From Sir William P. Hildred, director general of the International Air Transport Association:

"The idea of a National Aviation Week in the United States and, indeed, in every country, is eminently appealing. A nation's aviation is one of its major assets."

From Robert Ramspeck, executive vice president of the Air Transport Association of America:

"Speaking for myself personally, I think it would be a fine thing to do."

From Harold Mansfield, public relations manager of the Boeing Aircraft Company:

"I think the National Aviation Week . . . is a good idea."

From James H. Cobb, Jr., director of public relations and advertising for Delta Air Lines:

"The suggestion of Publisher John F. Budd that all aviation celebrations be combined under one National Aviation Week, appeals to us very much. You may count on the cooperation of Delta Air Lines in promoting one coordinated observance in lieu of a number of half-hearted efforts."

From Kenneth R. MacDonald, manager of the Aviation Department, San Francisco Chamber of Commerce:

"This is a most interesting and desirable project and I am sure that every aviation enthusiast in this highly aviation conscious San Francisco Bay Area joins with Mr. Budd in hoping that the project reaches fulfillment."

FOREIGN AIRLINES OF THE WORLD

(Including United States Territories)

AIRLINE	ADDRESS	COUNTRY	OFFICER	AREA OF OPERATIONS	AIRPLANES (in operation) DC-2	DC-3	DC-4	Boeing 247	Boeing 314	Anson	Fiat G-2	Reliant	G-21A	Vega	Pacemaker	Kingbird	Taylorcraft	Aeronca	C-21	Ireland F.B.	Lancastrian	Hythe F.B.	C-Class F.B.	Constellation	Liberator	Lodestar	Viking	Norseman	Waco	Fairchild	Lockheed 12	Lockheed 14	Lockheed 18	Electra	Short S-30	Short S-36	JU-52	Ford	Rapide	Commando	(on order or being modified) DC-3	DC-4	Tudor I	Tudor II	Stratocruiser	Bombardier	Constellation	Marlin 302	Warfarer	Scaleo	Viking	Dove	Cargo only	Passengers only	Cargo and Passenger
Aer Lingus Teoranta	43 Up. O'Connell St., Dublin M.8	Eire	John Laydon, Cam.	United Kingdom		5																																																
Aero O/Y	Box 278, Helsinki	Finland		Finland																																																
Aero Portuguese Ltd.	33, Rua do Alecrim, Lisbon	Portugal		Portugal-Morocco																																																	
Aero Transportes de Sonora, S.A.	Edificio Ferreira, Desp. 1, Hermosillo, Sonora	Mexico		Mexico																																																
Aeronaves de Mexico, S.A.	Avenida Juarez 97, Mexico D.F.	Mexico	A.D. Lombardo, Pres.	Mexico	3			2		7																															5												
Aeroposta Argentina, S.A.	Avenida de Mayo 560, Buenos Aires	Argentina		Argentina																																																
Aerovias S. A. de Minas Gerais	Rua Tamoios, 36, Belo Horizonte, Minas Gerais	Brasil	Israel Pinheiro, Pres.	Brazil							1	2																																								
Aerovias Braniff, S. A.	Apartado Postal 1441, Mexico D.F.	Mexico	T. E. Braniff, Pres.	Mexico, Central America		2																																		18												
Aerovias Latino Americanas, S. A.	Avenida España 9, San Salvador	El Salvador	G. L. Riley, Mgr.	Florida-Central America		3																																													
Aerovias Nacionales de Colombia, S.A.	Apartado 203, Barranquilla	Colombia		Colombia																																															
Aerovias Nacionales del Ecuador, S.A.[19]	Guayaquil	Ecuador	H. H. Rohlsen, Pres.	Ecuador																																					3												
Aerovias Venezolanas, S. A.	Apartado 948, Caracas	Venezuela		Venezuela																																															
Air France[20]																																																				
Air Services of India	Bombay	India		India																																															
Air Transport, Ltd.[18]	Jersey	Channel Islands		Channel Islands		1																																			1												
Air Travel (N.Z.) Ltd.	Southside Airport, Horitika	New Zealand		New Zealand																																															
Aircrafts Proprietary Ltd.	Archerfield Airport, Brisbane	Australia		Australia																																															
Airlines (W.A.) Ltd.	53 St. George's Terrace, Perth	Australia		Australia																																															
Aktiebolaget Aerotransport[16]	Kungsholmstorg 1, Stockholm	Sweden	C. Florman, Pres.	Europe		17	2																																											
Alaska Airlines, Inc.	Anchorage	Alaska	M. C. Hoppin, Pres.	Alaska		7	2																																											
Alaska Coastal Airlines	Box 2808, Juneau	Alaska	Holden & Simmons, Mgrs.	Alaska									2	2	1	1	1	2																																	
Allied Airways (Gander Dower) Ltd.	Dyce Airport, Aberdeen	Scotland		United Kingdom																																														
Ansett Airways Ltd.	Aerodrome, Essendon, Melbourne W.6	Australia		Australia																																														
Australian National Airways Pty. Ltd.	Aerodrome, Essendon, Melbourne W.6	Australia		Australia																																														
Bahamas Airways, Ltd.	Nassau	Bahamas		Bahamas																																														
Bharat Airways, Ltd.	c/o Birla Bros., Calcutta	India		India																																														
Bristol Bay Air Service	Anchorage	Alaska		Alaska																																														
British American Air Services	London	England																																							7												
British Guiana Airways, Ltd.	Box 102, Georgetown	British Guiana	A. J. Williams, Dir.	Guianas, N. Brazil															3	3																						3												
British Overseas Airways Corp.[6]	Airways House, London S.W. 1.	England	Viscount Knollys, Chm.	World-Wide		43			3												16	21	3	5	10	17	?	?	?														?	?	6										
British South American Airways, Ltd.[7]	19 Grafton St., London	England	D. C. T. Bennett, Dir.	London, Lisbon, Azores, Carib., S.A.																	5																							3	6											
British West Indian Airways Ltd.	12 Abercromby St., Port of Spain	Trinidad	K. T. Murray, Dir.	Br. W.I., Br. Guiana Br. Honduras																						4					1																						
Butler Air Transport Co.[20]	Kingsford Smith Aerodrome, Mascot, Sydney	Australia	C. A. Butler, Dir.	Australia	3																																														
Canadian Pacific Air Lines[4]	Windsor Station, Montreal, Que.	Canada	W. M. Neal, Pres.	Canada		?																				?		?		?																						
Caribbean Atlantic Airlines, Inc.	47 Recinto Sur St., San Juan	Puerto Rico	D. Trigo, Pres.	Puerto Rico, Virgin Islands		2																																													
Central Air Transport Corp.	3, Shang-I-Kai, Kumming	China	C. L. Chen, Mng. Dir.	China		?																																													
Ceskoslovenska Aerolinie	Prahall, Vodickova 34	Czecho-Slovakia	F. Trebichavsky, Pres.	Europe		4																																												
Channel Islands Airways, Ltd.[9]	The Airport, Jersey	Channel Islands		Channel Isl., England		1																																													
China National Aviation Corp.	Chungking	China		China, India																																																
Christensen Air Service	Anchorage	Alaska		Alaska																																														
Civil Air Fleet Administration	Moscow	U.S.S.R.		U.S.S.R.																																														
Companhia de Transportes Aereos	Ave. da Liberdade, 72-A, Lisbon	Portugal	C. E. Bleck, Mng. Dir.	Portugal		2																																												
Companhia Meridional de Transportes, S. A. Brazil	Rio de Janeiro	Brasil		Brasil																																														
Compañia Aeronautica Uruguaya, S.A.	Calle 25 de Mayo 412, Montevideo	Uruguay		Uruguay-Argentina																																														
Compañia Cubana de Aviacion	Prado 252, Havana	Cuba		Cuba																																														
Compañia de Aviacion Faucett	Hotel Bolivar, Lima	Peru		Peru																																														
Compañia de Transportes Aereos Centro-Americanos de Costa Rica[24]	San Jose	Costa Rica		Costa Rica																																														
Compañia Dominicana de Aviacion, C. por A.	Ciudad Trujillo	Dominican Republic	Harry Rammer, Mgr.	Dominican Republic		2																										1					2													
Compañia Guatemalteca de Aviacion, S.A.	Guatemala	Guatemala		Guatemala																																														
Compañia Mexicana de Aviacion, S.A.	Edificio Woodrow, Madero y Filomeno Mata, Mexico D.F.	Mexico	E. R. Silliman, Pres.	Mexico, Los Angeles, Havana	4	8	3																																		1												
Compañia Nacional Taca de Nicaragua	Managua	Nicaragua		Nicaragua																																														
Cook Strait Airways, Ltd.	Burnett St. & Wakefield St., Nelson	New Zealand		New Zealand																																														
Cordova Air Service, Inc.	Cordova	Alaska		Alaska																																														
Corporacion Sudamericana de Servicios Aereos, S.A.	25 De Mayo 299, Buenos Aires	Argentina		Argentina-Paraguay Uruguay																																														

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AIR CARGO CROSSROADS

Teterboro Strikes a Special Theme

FRED WEHRAN, owner and manager of Teterboro Airport, arriving at the administration building. . . . General scene at Teterboro (left), showing Willis airfreighters in various stages of work.

By JAMES COTESWORTH

WITH more than 500 landings and take-offs a day, Teterboro Air Terminal has grown with the swift upsurge in air freight business during the last year from the grass sod runway stage to that of one of the busiest commercial airports in the country.

Pioneers in air freight, who took the lead in developing the old Bendix Airport into the modern Teterboro field in Northern New Jersey, 20 minutes by car from midtown Manhattan, admit that the recent growth of the terminal has been fantastic. They predict, however, that this is only a start. They see bigger things in the near future for this metropolitan area air freight center.

Teterboro is buzzing with activity even if "the birds are walking." Though flights are grounded by weather, the gas truck is servicing planes, maintenance crews are running checks on the flight line, and the shops are pulling major overhauls on engines, or giving them run-in time. Work is the ideal that prevails regardless of time, tide, or weather—and this is just the start in the opinion of those who should know.

Along about two o'clock in the morning, when the ground fog which has blanketed the entire northeast seaboard starts drying up, a DC-3 or DC-4 pulls away from the warehouse doors of Air Freight Handling, Inc., contacts the control tower by radio, then taxis out onto the field.

Smooth Going

In the control tower the operator has received clearance for the flight from the New York air traffic control center by direct interphone communications. He relays the clearance to the plane at the end of the runway, and it lumbers into the wind and roars off into the night. Flight 803 of National Skyways Freight has just left for California.

Forty-five minutes later a Flamingo Air Service cargoplane from Florida comes in for a landing. It pulls into the far end of the ramp where members of Air Freight Handling take over. Within two hours the plane has been completely unloaded and reloaded. Regular flight servicing is accomplished during the loading operations, and it is ready for departure.

Fifteen to 20 of these tramp steamers of the sky come in during the hours of darkness, while 30 to 40 arrive during the remainder of the day. These airfreighters, representing a number of cargolines, bring in a total of some 300,000 pounds of cargo daily. Half of this is moved by the trained specialists of Air Freight Handling, who also repack items when needed. Ray Gambon, general manager and ex-Marine pilot, commented to the writer:

"We are at it 25 hours a day, eight days a week, and we have just started."

This seems to be the keynote of Teterboro itself. Five flying schools, and other organizations, including Bendix Aviation's Eclipse-Pioneer Division, Air Associates, Robinson Airlines, and Willis Air Service (which first recognized Teterboro's vast potentialities as an air freight center for the New York area) have pulled the field from its marshland heritage to its present important status.

The five flying schools, offering training for everything from private to instrument and transport pilot's tickets, account for a great portion of the hum. However, Fred Wehran, manager of the field, feels that it is the air freight operations which will permit the field to support itself. He and Charles F. Willis, president of the Willis Air



A Flying Tiger cargoplane gassing up in front of the Willis Air Service hangar.

Service, have cooperated in building up the interest of other freight companies in using Teterboro's facilities.

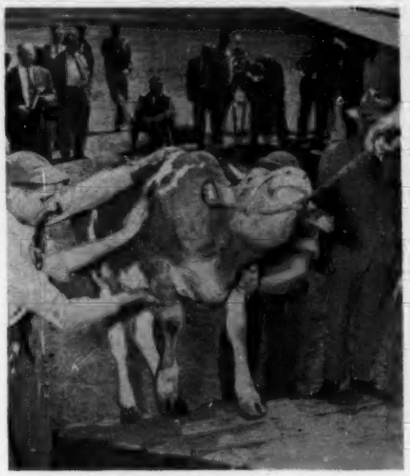
The Standard Oil Company of New Jersey was recently approached, and it made a loan for the first improvements of the field, including the hard surfacing of the runways. It has followed up with a second loan for further expansion and development.

Hundreds of thousands of gallons of gas already have been used by the air-freighters at Teterboro, which indicate that Standard Oil's faith in the air cargo business is well founded. The air freight companies have profited, too, for they can obtain 91 and 100 octane gas under contract for less than at any other field in the area.

Economy is achieved, not only in the purchase of gas, but also in maintenance and operational overhead. The air cargo carriers coming into the field can use the Willis facilities. The whole effort assumes a cooperative nature. It accounts for the present growth and foretells future possibilities in air freight, which according to transportation experts may dwarf passenger flight. This was highlighted in a symposium in last October's AIR TRANSPORTATION.

Far different from the political and economic confusion which dogs Idlewild and threatens LaGuardia Airport, construction, improvement, and expansion go on at Teterboro, while operation to and from the field continues unabated; in fact, it is actually growing. It speaks well for the airport management, which has divorced itself from the idea of mixing passenger and freight operations at one field. It is an example of companionate growth. The development of similar fields all over the country is expected; in fact, forecasted.

Today Teterboro is literally the air-freight crossroad of the East.



Loading cattle aboard international air-freighters is no longer a novelty at Teterboro. Cargo is for Colombia.



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Converted Commando Certificated by CAA For Air Cargo Hauls

What may turn out to be an aircraft market reaching into nine figures was revealed at the Washington National Airport when United Services for Air, Inc., of Niagara Falls, New York, converter of Curtiss-Wright C-46 *Commandos*, revealed that it had successfully completed modification of the cargoplane which has been granted a CAA certificate.

Licensing the *Commando* makes possible the utilization of more than 1,000 such transports. Airline operators are unable to obtain delivery of new airliners at the present time, the surplus supply of DC-3s and spare parts is exhausted.

More than 600 *Commandos* are owned by the War Assets Administration. Approximately 400 are at bases overseas. A conservative estimate evaluates the aircraft as being worth $30,000,000 to the



Albert H. Nisita (left), president of United Services for Air, Inc., receiving the congratulatory handshake of General James A. Mollison, WAA deputy associate administrator.

Government, with spare parts and surplus engines for the aircraft totaling nearly $70,000,000. The certificated *Commando* carries twice as much payload as the surplus DC-3, and reduces the flying cost per ton-mile by about one-half.

Figures released by United Services for Air show that the C-46 has been certificated by CAA to carry a gross weight of 45,000 pounds. The plane has a useful load of about 17,500 pounds and a 215-mile per hour cruising speed over a 1,500 mile range. The largest two-engine transport plane in the world, the newly certificated plane has a 2,640-cubic foot cargo capacity.

USair officers stressed the fact that their C-46 certification program will act as a badly-needed stimulant to the entire industry, stressing the point that carriers are desperate for equipment. The plane will cost about $75,000, basic cargo version, with the passenger modification costing approximately $100,000, depending on customer specifications. Say company officers:

"With reduced operating costs and increased revenue because of high payload-carrying features of the C-46, many operators who would have been unable to continue operations will still be in business for a long time to come. The opening of the C-46 market by USair is expected to bolster and strengthen the entire air carrier industry, materially helping it over one of the most crucial periods it has ever faced. The C-46 certification program offers a timely support until such a time when many of the carriers will be in a position physically and financially to purchase new aircraft.

"The foreign market is also expected to receive assistance through USair's achievement at a time when certain foreign aircraft manufacturers are attempting to flood the world transport market with new and used airplanes. Certification of the C-46 should aid the State Department in securing foreign aircraft trade during this critical time."

It is estimated by the company that the cost of mandatory changes necessary to make the *Commando* eligible for licensing will approximate $29,500. Airworthiness cost will range from $5,000 to $20,000, depending on condition of each aircraft. The C-46s have been exposed to weather during surplus-storage period. The price of the C-46 is only slightly higher than that of the surplus DC-3, but carries more than twice the load with a higher ton-mile revenue.

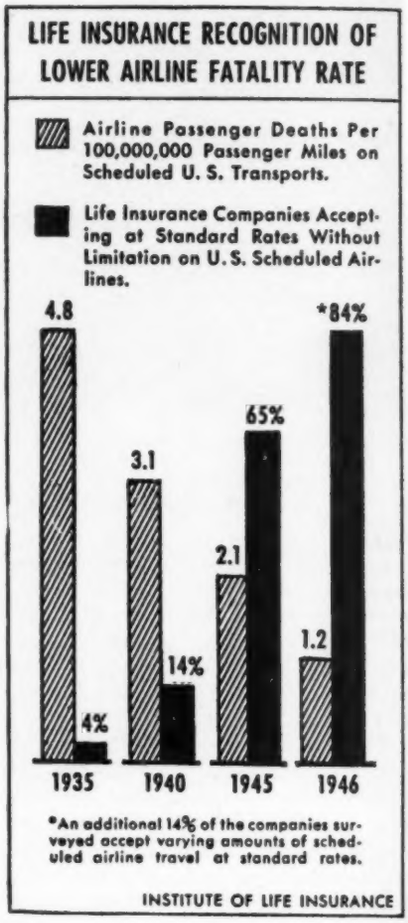
The part 03 normal category of the Civil Aeronautics Authority regulations, under which the C-46 was licensed by USair, allows the plane to be operated as a non-scheduled passenger airliner, as well as a scheduled and non-scheduled cargo transport. Mandatory changes incorporated by USair to meet CAA requirements included an extensive fire-prevention program, improved maintenance features, removal of military equipment, general weight reduction and all major structural changes required by CAA.

Officers of United Services for Air, Inc., include Albert H. Nisita, president, former Curtiss-Wright service engineer; J. L. Ziegler, vice president, former Curtiss-Wright test pilot; Henry C. Marquardt, sales manager, a test pilot for Curtiss during the war; and Norman L. Kearney, special service representative, who was service manager for the Curtiss Airplane Division for 20 years.

Air Safety Recognized By Insurance Companies

In recognition of the lower fatality rate on scheduled United States airlines, the trend towards liberalization in the issuance of life insurance to persons contemplating travel on these lines continued during 1946, according to the Institute of Life Insurance. Currently, 98 percent of a group of representative life insurance companies surveyed will issue policies at standard rates to passengers on scheduled commercial airlines in the United States, compared with 87 percent a year ago. The companies surveyed represent more than 80 percent of the total life insurance business.

Of these companies, the Institute stated, 84 percent have no limitation of any kind on scheduled United States airline passengers, while 14 percent limit either the amount of travel, most frequently at about 40,000 miles per year, or the size of the



policy issued. None of the companies surveyed rejects such applicants because of contemplated flying on scheduled airlines. These rules apply only to new policies issued and do not affect outstanding life insurance.

Current practice compares with 65 percent insuring at standard rates without limitation and 22 percent with some limitation one year ago; 14 percent without limitation and 53 percent with some limitation in 1940; and four percent without limitation and 54 percent with some limitation in 1935, the mileage limit being most frequently about 5,000 miles.

"The continued liberalization in 1946 of life insurance company rules governing the issuance of new policies is a reflection of the downtrend of passenger death rates on scheduled airlines," Holgar J. Johnson, Institute president, said in commenting on the survey findings. "As the fatality rate per 100,000,000 passenger miles dropped from 4.8 in 1935 to 3.1 in 1940, 2.1 in 1945 and a new low of 1.2 in 1946, the number of companies insuring would-be airline passengers at standard rates without limitation has increased from four percent in 1935 to 84 percent at the start of this year. This is in recognition of the persistent trend of increased safety on the scheduled United States airlines from 1935 to 1946."

New British Company

Three State-owned British airline corporations have formed a non-profit company —International Aeradio, Ltd.—to install and operate telecommunications and radio aids to navigation wherever necessary.



(Trade Mark)

SCANDINAVIAN AIRLINES SYSTEM air cargo, public relations, and advertising offices, as well as the office of Theodore P. Gould, vice president-traffic and sales, have moved to 630 Fifth Avenue, New York.

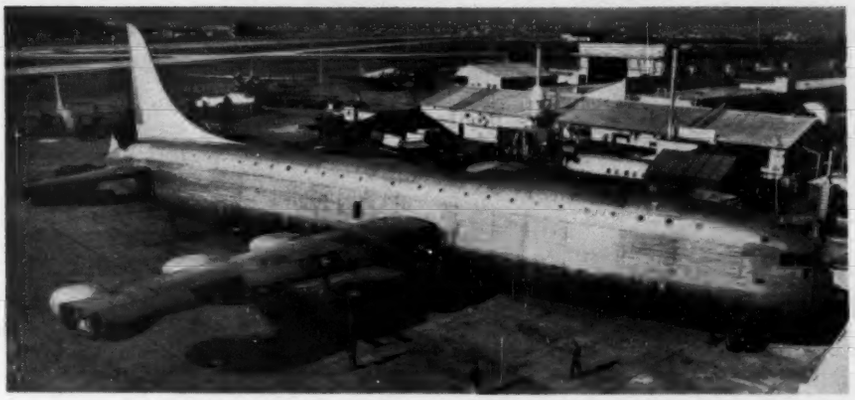
American Overseas Airlines has ordered the installation of radar on the eight *Stratocruisers* being built for AOA by **Boeing Aircraft.**

Amendment of **Eastern Air Lines'** certificates by the Civil Aeronautics Board has made it possible for EAL to operate nonstop from Chicago and St. Louis to points in Florida. **Delta Air Lines** may now fly nonstop between Atlanta and Jacksonville and Miami.

Fifteen hundred *Superfortresses* will be put into synthetic cocoons of plastic to preserve them for emergency combat use. Each plane will be sprayed with five different coats of plastic, and the result will be an airtight synthetic cocoon seven times stronger than rawhide, keeping out moisture and dust for a period of 10 years.

TACA Airways System has been certified by the CAB as a foreign air carrier, with ports of entry into the United States as Miami and New Orleans.

SUPER-DUPER TRANSPORT



The Army Air Forces' XC-99 cargo and troop transport, world's largest land-based aircraft. Nearing completion at Consolidated Vultee's San Diego plant, the double-decked plane is shown being moved from its hangar into the experimental yard. The plane will be capable of carrying 400 troops, or 335 litter patients, or 100,000 pounds of cargo. It is 182½ feet long, has a wingspan of 230 feet, a height of 57½ feet, and powered by six 3,000-horsepower Pratt and Whitney pusher-type engines. With reduced loads, the craft will have a maximum range of 8,000 miles.

The AAF is developing a "flying crane" helicopter, capable of lifting mechanized military equipment up to 20,000 pounds in weight from one bank of a river to the other, or of setting down heavy artillery in "relatively impenetrable places."

A bill has been introduced to the **United States Senate** to turn over 1,100 surplus airports, including operating facilities and maintenance equipment, to state, county, and municipal governments without cost.

W. Austin Washburne, Jr., a Gulf Oil Company executive for the last 13 years, has resigned from company service. Although he has left for Houlton, Maine, where he has certain interests, he is expected to return to Westchester County in the Spring and associate himself with aviation interests in the New York metropolitan area.

A bilateral air transport agreement has been signed by the **United States** and **Ecuador.**



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Glass Appointed Head Of Air Cargo, Inc.

Fred M. Glass, vice president-traffic of Capital Airlines-PCA, has been named president of Air Cargo, Inc., on ground service organization set up by the Air Transport Association to promote the efficiency of air cargo operations between all points in the United States.



Air Cargo Inc. is designed to handle all phases of ground operations in connection with air cargo for the scheduled airlines, which set up the corporation several years ago primarily as a research unit. The proposed program of the reactivated organization embraces a series of projects that will go far toward revolutionizing the entire transportation field. Its initial function will be to provide for pick-up and delivery service within terminal areas at all domestic airline points, and employ joint facilities and personnel for the cargo operation of city and airport terminals, similar to the plan of Airlines Terminal Corporation to consolidate passenger and servicing facilities.

The reorganized cargo division will also offer miscellaneous services such as the preparation of shipping documents, operation of local clearing houses for the collection of shipping charges and central purchasing of air cargo forms, supplies and other material. In addition, it will serve as attorney-in-fact for the scheduled airlines in negotiating through-service arrangements with surface carriers. The agency ultimately will assume responsibility for carrying out many improvements to expedite the interline transport of airborne goods.

Glass has had varied experience in the field of aviation since receiving the degrees of Bachelor of Laws and Master of Laws from Northwestern University in 1936. He left the practice of law in St. Louis in 1938 to become chief attorney for the Air Safety Board in Washington and later joined the legal staff of the Civil Aeronautics Board.

Prior to joining the Army Air Transport Command in 1942, he served as counsel for American Airlines. During the war he served with the ATC in England and India before becoming Chief of Staff of the Pacific Division with the rank of Colonel. He joined Capital in April, 1946, as regional vice president in charge of the Southern Division, and was elevated to vice president in charge of traffic and sales last July, a post he has since held. A native of Winona, Mississippi, he received his degree of Bachelor of Arts from the University of Mississippi before entering Northwestern where he majored in aviation law.

BOAC Seaplanes

New British-built seaplanes will be placed on the BOAC service between Baltimore and Bermuda in the second half of this year. Boeing 314s operate the route at the present time.

New Routes

THE Civil Aeronautics Board has amended the certificates of Pan American World Airways and Chicago and Southern Air Lines in order to permit these carriers to serve Montego Bay, Jamaica.

The Board amended PAA's certificate to include Montego Bay as an intermediate point between Cienfuegos, Cuba, and Kingston, Jamaica, on that carrier's route between the terminal point Miami, and the terminal point Balboa, Canal Zone, and Barranquilla, Colombia. Amendment of the C&S certificate included Montego Bay as an intermediate point between Havana, and Kingston, Jamaica, on the airline's route between the coterminal points New Orleans and Houston, and the terminal point San Juan, Puerto Rico, and Caracas, Venezuela.

It was pointed out by the CAB that air service to Montego Bay as an additional intermediate point on the routes of the air carriers presently authorized to operate to Jamaica would be of substantial public benefit without undue cost to the Government. Additional revenue accruing from the increased traffic anticipated from the development of Montego Bay as a tourist resort justifies service by PAA and C&S, the Board stated. In the same order the Board denied the application of Eastern Air Lines to serve Montego Bay.

PAL Buys DC-6s

Douglas Aircraft has announced the purchase of two DC-6s by Philippine Airlines, delivery to be made during the latter part of this year.

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What Air Freight Carriers Can Expect From New York's Glamor Industry

The third in a series of articles based on an important survey of the air freight potentials in New York's women's apparel industry



By Colonel L. H. Brittin • Bertram Ault • Dr. Roger Mayhill

COATS, SUITS AND OTHER OUTERWEAR

Contrary to the trend in dress production the production of coats and suits declined steadily during the 1930s, both in value and quantity. This trend was arrested in 1939, and during the war production mounted steadily. Although unit production increased substantially during the war a comparison of prewar and war unit production is not possible because of differences in classification. On the basis of value, production of coats, suits, separate jackets and skirts increased from 314 million dollars in 1939 to 769 millions in 1944, or 145 percent. Part of this increase was attributable to the increased production of women's work jackets and skirts, but the bulk of it comprised street apparel.

Style plays a role in the coat and suit industry equivalent to that in the dress industry. However, style changes do not occur with quite as much frequency or rapidity. Of coats and suits, the latter are the more stylistic. The season for coat and suit sales is more restricted than in the dress industry. While dresses enjoy a good summer season, sales of coats and suits during that season are negligible. Before the war there was considerable hand-to-mouth buying—that is, for one month's delivery. Ordinarily three month's delivery was allowed for lower priced merchandise. August is a big month for shipping coats and suits since retailers want the merchandise for the back-to-college rush. There is more time for shipment after this period because the same styles are sold until Christmas. Pre-Easter sales are extremely important in the industry and a considerable volume of reorders and last-minute shipments can be expected to go by air at that time.

Measured by value of production, the dress, coat and suit industries are about equally concentrated in the New York area, which accounts for sligthtly under 80 percent of the national product. However, in terms of unit production, coats and suits are more highly concentrated in New York than dresses. The industry is located just north of the dress industry between Sixth and Eighth Avenues from 38th to 40th Streets. Somewhat less than one-third of the coat and suit industry is found in Brooklyn. The firms in Brooklyn are almost entirely contract factories, while those in Manhattan are principally "inside" manufacturers.

Boxes are fairly well standardized throughout the dress, coat and suit industries. The six standard sizes are:

30" x 2" x 16½" 30" x 6" x 16½"
30" x 4" x 16½" 30" x 9" x 16½"
30" x 12" x 16½"

The boxes themselves weigh from 1½ to three pounds. The number of garments packed in a box depends on their density and size.

Compared with dresses, a somewhat lesser proportion of suits and coats can be expected to go by air. This is based on the slower style changes and lower value-weight relationship of suits and coats.

Sportswear is a rather loosely defined term in the apparel industry. It refers to several distinct types of apparel and also to a style that runs through the entire industry. Play suits, slacks and slack suits, shorts, bathing suits and beach wear, sweaters and riding habits are distinct types of sportswear. On the other hand, the term sport dresses,

sport suits, and sport coats refers to a particular style in a larger apparel group. Most sportswear is manufactured in youthful sizes. Thus, an important part of the dress and sportswear industry fabricated dresses, coats, jackets and skirts for the junior miss.

Although New York City is still the largest producer of sportswear in the United States, its lead in some lines is being seriously challenged by other areas, particularly California.

In comparison with the other branches of the apparel industry, "other outerwear" is a small industry with only 13 million dollars of sales reported in 1944.

Knit sportswear, or outerwear, with over twice the volume of sales as "other outerwear," comprises mainly sweaters and bathing suits and also includes knitted dresses and suits. This industry is divided between New York City and California, with New York the principal producer of sweaters, and California the major producer of knit bathing suits. New York, however, is the leading manufacturer of bathing suits made of woven fabrics.

Broadway and the adjacent area in the upper Thirties is the headquarters for the sportswear industry. The industry, in general, is highly stylized and can be expected to offer the same relative air potential as the dress industry. Because of its lighter, weight, Spring and Summer sportswear is better adapted to air carriage than such Winter items as snow and ski suits. The same cartons used in the dress, suit and coat industries are generally used for packaging sportswear.

The following are typical reactions to air freight received from manufacturers of different types of sportswear:

Mr. A, shipping manager of a misses' sport dress firm, believed than in six months 75 percent of his West Coast shipments would be routed by air.

Mr. B, salesman of a firm making junior miss sportswear, predicted that all lighter weight merchandise in the sportswear field would be shipped by air in the near future.

Mr. C, manager of a girls' sportswear firm, stated that style was sufficiently important in the industry to insure eventual shipping by air. He felt the greatest use of air freight would be in shipping reorders.

Mr. D, manager of a medium-priced sport jacket firm, felt that air shipments would be principally used in filling reorders. He stated that the merchandise deteriorates when kept in boxes over a period of time, and that speedy shipment would deliver the garments to the retailer in better condition.

Mr. E, shipping manager for a bathing suit manufacturer, stated that samples are now being shipped by air. He expected that most of this type merchandise would be shipped by air during the height of the season.

Mr. F, salesman for a sweater manufacturer, declared that retailers would ship by air freight when they required the merchandise in a hurry for a sale, or when deliveries were held up while a desirable new style was being fabricated.

Mr. G, salesman for a lower-priced sweater manufacturer, said that samples would be the main items to be shipped by air. He felt that retailers want the cheapest method of shipping to be used.

Children's coats and dresses are an important segment of the apparel industry and are concentrated in the New York area to about the same relative extent as the rest of the industry. The industry is fairly well scattered throughout the garment district, but there is some concentration of the industry in the upper Thirties along Broadway and Eighth Avenue.

The unanimous opinion among those interviewed in the children's coat industry was that very little potential for air shipment could be expected. Styles change very little from month to month and only in very special cases would air shipments be used. Orders are usually placed several months in advance, giving ample time for shipment by lower cost surface means. "The kids tear and wear out their clothes so much that people don't pay too much for them."

Children's dresses present a much brighter prospect than coats. One manufacturer pointed out that style in children's dresses is much more important than most people realize, and "changes every day in the week." Many girls desire to dress as their mothers do, resulting in a considerable business in "mother and daughter" sets. It was felt that children's dresses would not lead in the use of air freight but would certainly follow other branches of the apparel industry once they had started using it on a fairly wide scale.

From 1939 to 1944 production of blouses and waists doubled in quantity and increased in value by about 3½ times, thus showing a greater increase than any other type of apparel. New York's share in the value of production rose from 67.6 percent in 1939 to over 74 percent in 1944.

Specialization in this industry varies. Some manufacturers make nothing but blouses and shirts, while others manufacture all types of sportswear, including blouses. These garments are fabricated in the dress and sportswear area.

Blouses and waists have a considerable style factor and very satisfactory value-weight-bulk relationship. As potential air candidates they would seem to rank somewhat below dresses and sportswear.

Typically, about 80 percent of these garments are shipped by Railway Express and the rest by fast freight. There is no uniform method of packaging used. One firm, for example, uses 10 different sized cartons. The number of garments packed into a carton of given size also varies, depending on whether they are packed tight or loose. There is



Flown to New York from the four corners of the earth, these TWA-transported fashions, representing the best of the world's top-flight designers, went on an air tour of 16 United States cities.

also wide variation in the weights of the garments.

Manufacturers were of the opinion that air freight would first be used where production was late in meeting a retailer's advertised sale's date. They also believed that the pre-Easter season would afford opportunity for air shipments.

MILLINERY

Over 60 percent of the millinery industry is concentrated in New York City. Most hat shops are found on 35th to 39th Streets, between Fifth and Sixth Avenues. The most exclusive shops are located in the upper Fifties, while some of the lowest priced houses are located in downtown Manhattan, in the neighborhood of Greene Street.

Prior to the war the millinery industry was one of the most seasonal of any of the apparel groups. Most of the fall production occurred in August and September; and Spring production took place in February and March. Production for a limited Summer season was carried on in late May and June. During, and since the war, millinery experienced the same trend as the other apparel branches, and is maintaining a high level of production throughout the year.

With production in 1939 exceeding 100 million dollars, millinery is an important part of the apparel industry. In style, it ranks second to none. From every angle, except one, it offers a substantial air potential.

All hat manufacturers interviewed were unanimous in declaring that everything in the industry would be shipped by air at the right price. It was stated that shipping hats in the middle of the week for Saturday sales could create substantial business for the industry. The one factor which has discouraged shipment of hats by air is the weight-bulk ratio. Hitherto, rates have been charged on cubic dimensions rather than on weight, since hats are packed in small number in bulky containers.

The present method of shipping hats is to pack six of them in a box 12″ x 18″ x 18″. Six of these boxes are then packed in a carton 36″ x 36″ x 18″. The average shipping weight of one of these cartons varies between 15 to 20 pounds.

It is up to the air carrier to decide whether he wants this millinery business, which adds up to a substantial volume of traffic during the year.

UNDERGARMENTS, NEGLIGEES AND ACCESSORIES

The underwear and accessory business has often been called the "bread and butter" of the apparel trade. These items, in general, do not undergo rapid or drastic style changes, are less seasonal in production and shipping, and retail at a sustained volume all year round.

The diversity of the different types of women's undergarments is truly amazing. Most manufacturers and trade spokesmen when asked to explain the very detailed census breakdown of women's undergarments admitted that they were unfamiliar with one-quarter of the items listed.

Among other classifications, the census divides undergarments according to type of fabric used; woven and knit. Knit underwear has not been included in calculating the potential since it constitutes only 11 percent of the total manufactured, of which less than 10 percent is manufactured in the New York area.

On the whole, the undergarment industry is less specialized than the outer wear industry. It is not uncommon for one firm to manufacture slips, petticoats, panties, bloomers, nightgowns, and pajamas. A negligee manufacturer will often produce, in addition to negligees, such garments as pajamas, hostess gowns, robes and bed jackets.

Most of the undergarment industry is concentrated east and west of Madison



Avenue, from 26th to 34th Streets. However, a considerable portion of the industry is scattered through downtown Manhattan, on the West Side and in Brooklyn.

Foundation garments are a separately classified industry, although literally they belong with the undergarment group. Included in this classification are corsets, girdles, brassieres and allied garments. The foundation garment industry is not concentrated in New York City to the same extent as is the rest of the undergarment industry. On the basis of unit production somewhat over half of the national production of foundation garments is made in the New York area in comparison to the 60 to over 80 percent concentration of the underwear and negligee production in this area.

The undergarment and allied industries with their 300 million-dollar output in 1939, and 450 million-dollar output in 1944, represent a sizable portion of the apparel industry. It is, however, difficult to estimate what proportion of these garments are likely to move by air. The value-weight relationship of undergarments is lower than that of dresses but is well above the requirement for air candidacy. Superficially, there appears to be little need for extra speed of shipment since style is not sufficiently important to affect method of shipment and there is no marked seasonality for the bulk of the merchandise. Some of the higher priced manufacturers have stated that speed is always important since it allows for higher inventory turnover and satisfies the retailer with quicker deliveries. The consensus of opinion is, however, that comparative costs will be the determining factor in the use of air freight. *All manufacturers interviewed agreed that a substantial portion of their product would move by air if rates approached the level of Railway Express rates.*

Although the bulk of undergarments are an all-year seller, a large percentage of negligees, robes and related apparel are high pre-holiday sellers. These constitute "gifts" and are sold in the largest quantities before Christmas and Easter. A considerable quantity of these types of garments may be expected to move by air before the above mentioned holidays. It should be pointed out, however, that high-priced negligees move in very small individual shipments. Six to 12 of these garments comprise the ordinary shipment.

In most of the factories visited, three to 12 garments are packed in small individual boxes. Depending on the size of the order, a number of these boxes are packed into larger corrugated cartons for shipping. Two typical shipments are shown below:



Cargo handlers loading a consignment of women's wear shipped via United Air Lines' air freight service.

Garment	*Quantity*	*Carton Dimensions*	*Weight*
Slips	20 doz.	27"x21"x15"	55 lbs.
Corsets	5 doz.	28¼"x21¼"x19"	65 lbs

Although hosiery ranks third in size of apparel group measured by dollar volume of sales, it is omitted from consideration in this study because only seven percent of the national product is manufactured in the New York area.

Handbags and gloves are the two major apparel accessories. Of the two, handbags seem to offer the most promising air potential. Measured by value, New York produces about 75 percent of the handbags in the United States. A comparison of quantity production is not too meaningful since such articles as small coin purses are included in the quantity figures. A large part of the industry is situated on 32nd and 33rd Streets, east and somewhat west of Fifth Avenue. Considerable manufacturing also takes place on Fifth Avenue and Madison Avenue in the low Thirties.

The handbag industry is stylistic and seasonal, following the same general pattern found in the dress industry. Orders are placed a half-year in advance and shipments are made constantly all year round. A large retail establishment may order as many as 500 dozen bags from a single supplier during the year. From the manufacturers surveyed, it appears that at least 75 percent of handbag shipments are routed via Railway Express. *At competitive rates a considerable diversion to air freight may be expected.*

Packaging is very much standardized. The carton most often used is 20½" x 25" x 27", contains from two to three dozen bags, and weighs between 30 and 45 pounds.

The census gives three classifications for gloves, according to the materials used in their manufacture; knitted, dress or fabric, and leather. New York City accounts for only five percent of the leather gloves manufactured. Gloversville, which is located in upper New York State, is the largest producer of this type of glove, and is too far distant from New York City to be included in its metropolitan area. Manufacture of the two other types of gloves, knitted and dress, is concentrated in the New York City area to the extent of 75 to 80 percent. From the viewpoint of style and price, dress or fabric gloves offer the best potential.

Mr. A, sales manager for a higher priced glove firm, was enthusiastic about the possibilities of air freight in his industry. He stated that every day counted in the glove business and felt that more advertising and promotional activity could be profitably used to emphasize the advantages and small difference in cost resulting from shipping by air. He estimated that during the main seasons (Fall and Spring) gloves with "high color," which is an important style item, accounted for 25 percent of sales. Fashion changes rapidly, at times, when gloves of different lengths suddenly come into vogue. He summarized the need for speed by stating that the faster high quality gloves were delivered and sold, the more certainty there was that they would realize a higher price.

Mr. B, manager of a medium priced glove factory, thought there was a good possibility of gloves being shipped by air. He stated that the style element in gloves is more stable than in dresses and that the main change which takes place during a season is in color. He suggested that hand sewn gloves present a good opportunity for air shipment. Many of these are now sent to Puerto Rico for sewing and are then shipped back to New York. At the present time three months are required for this process, using surface transportation. Air freight could cut this time tremendously.

Knit gloves and mittens are much less stylized than fabric gloves and are sold almost entirely in late Fall and Winter. They offer much less potential than fabric or dress gloves.

The greater part of the glove industry is located on Fourth Avenue in the upper Twenties and low Thirties. Many factories may also be found on Madison Avenue, in the same neighborhood.

A fairly standard method of shipping better gloves is to pack them six to a box which has dimensions of 14½" x

(Concluded on Page 44)

TWA-NWA Agreement For Round-the-World Flights

As a result of an agreement between officials of TWA and Northwest Airlines, the first commercial round-the-world air service will be inaugurated on or about May 1. Agreements reached at the conference covered tariffs, coordination of schedules, terminal facilities, and equipment.

TWA is expected to expand its runs to Mandalay, Hanoi, Canton and Shanghai before May 1. NWA service will begin at Shanghai, following North Pacific Great Circle to New York via Anchorage, Seattle, and Chicago. An alternate route from Anchorage to Chicago will operate via Edmonton instead of Seattle.

Show Visitors Lectured On Air Transportation

Assigned to the New York Aviation Show for its eight-day stay at the Grand Central Palace, staff members of AIR TRANSPORTATION lectured on air freight and air travel to thousands of visitors. Used as object lessons were models of a Colonial DC-3, KLM and TWA *Constellations*, and a five-foot cutaway of an American Overseas DC-6. Instructive and informative literature of numerous airlines and service organizations were distributed. Cooperating in AIR TRANSPORTATION'S educational effort were all of the domestic and foreign airlines serving New York.

ON THE DOTTED LINE



Noah Dietrich, executive vice president of the Hughes Tool Company, signing an agreement for the $10,000,000 operational loan to TWA which Howard Hughes, TWA majority stockholder, agreed to advance. Standing left to right are C. W. Dow, manager of industrial securities, Equitable Life Assurance Society (which previously loaned $40,000,000 to the airline); Palmer Bradley, Hughes Tool Company attorney; and Otis F. Bryan, TWA vice president and general manager of the International Division.



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American Overseas and TWA are Hosts To Foreign Freight Forwarders at LaGuardia

With the foreign freight forwarder coming more prominently into the air transportation picture, American Overseas Airlines and Trans World Airline seized the bull by the horns and separately invited a party of IATA-recognized forwarders in the New York metropolitan area to attend inspection tours of facilities at LaGuardia Airport and informal discussions.

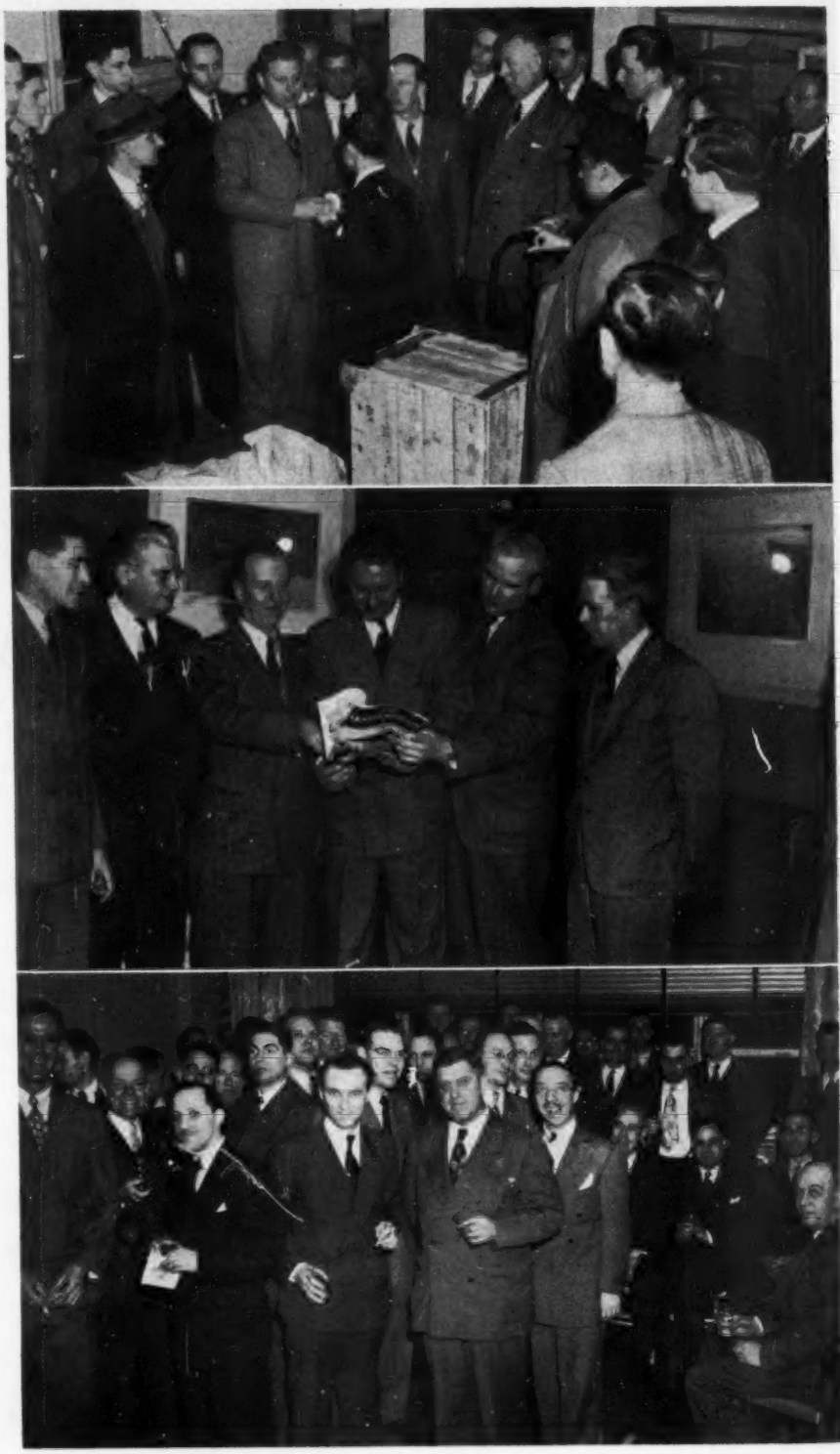
With the active cooperation of John F. Budd, publisher of AIR TRANSPORTATION, the meetings were designed to give the forwarders additional know-how and to present mutual problems. Addressing the AOA meeting were R. E. S. Deichler, vice president-traffic; Karl de Blinde, European cargo director; and Budd.

Attending the AOA meeting were representatives of the following firms:

Air Clearance Association; Air Express Forwarding Service; Air Express International; AIR TRANSPORTATION; Alltransport, Inc.; American Shipping Company, Inc.; Atlantic Forwarding Company; Barr Shipping Company; Behring Shipping Company; W. J. Byrnes and Company; Caldwell and Company; A. F. Cofod and Company; Commercial Airway Agency; Commercial Aviation Magazine; Davies, Turner and Company, Inc.; George F. Doherty Company; H. F. Dorf and Company, Inc.; Faunce, Inc.; Freedman and Slater; Globe Shipping Company; David Hauser; Frederic Henjes, Jr., Inc.; Hensel, Bruckmann and Lorbacher. Also:

Imperial Forwarding Company; Inter-Maritime Forwarding Company; Italian Shipping Company; Kersten Shipping Agency; Kraemer and Company; Massce-Barnett; Meadows, Wye and Company, Inc.; New York Board of Trade; H. G Ollendorf, Inc.; Olympic Shipping Company; Penson and Company; Pitt and Scott; Porto Rican Express Company; Premier Shipping Company, Inc.; Rohner, Gehrig and Company; A. W. Salter and Company, Inc.; Skyways Freight Forwarding; Societe Comerciale de Transports Transatlantiques; H. W. St. John and Company; Stark Air Shipping; Traders Service Corporation; Universal Transport Corporation; Wedeman and Godknecht; Daniel F. Young, Inc.

TWA's list of visitors was not immediately available.



WILLIAM SILKIE, American Overseas Airlines' LaGuardia Airport cargo traffic manager, giving some pointers (top) on the AOA position with regard to foreign freight forwarding . . . AIR TRANSPORTATION Magazine hits the spotlight as John F. Budd, its publisher, indicates (middle) an air freight item to William Silkie. Left to right are Karl de Blinde, AOA European cargo manager; Justin Brennan, chief of AOA's Import Division; Budd; Silkie; Tom Harris, AOA's supervisor of cargo sales in New York; and Joseph Burton, Deputy Collector of Customs at LaGuardia Field . . . GUESTS of TWA (bottom) at the airline's meeting for foreign freight forwarders.

Air Freight Forwarders Win Backing of Port Authority

Testifying at a hearing of the Civil Aeronautics Board in New York City, John W. Moore, traffic manager for air transport of the Port of New York Authority, declared that the CAB should not insist that persons wishing to perform air freight forwarder services obtain certificates of public convenience and necessity.

"Air freight forwarder applicants," he said, "should be granted exemption authorizing their operation if they are fit and able to furnish service. Certificates of public convenience and necessity should not be required. Air freight forwarding is in its infancy and will need the greatest possible flexibility if it is to develop efficient service. Regulation of the industry could be increased at any time the Board believes it necessary to do so."

It was suggested that air freight forwarder exemption orders should compel the forwarders to file and adhere to tariffs and provisions of the Civil Aeronautics Act requiring the furnishing of service without discrimination. The forwarders should also be required to file statements and be subject to the Board's general investigatory powers and to other administrative provisions of the Act, he said. Moore added:

"We believe that such qualified exemption orders would assure adequate air freight forwarder service on fair and reasonable terms, without depriving forwarders of the opportunity to perform flexible and expedited service."

U. S. Recommenation For LaGuardia Backed by IATA

The recommendation by United States Government officials that LaGuardia Airport be made a customs free port of entry for transient goods and passengers was hailed by the International Air Transport Association as a "decisive step toward breaking the bottleneck of international air service into the Western Hemisphere."

Sir William Hildred, IATA Director General declared that "the imposition of double customs and immigration inspections on international passengers and goods entering the Western Hemisphere at New York en route to Canada and Latin American republics is a vexation to everybody concerned and a deterrent to air travel."

"Under present regulations," he said, "a traveler bound from Europe to Canada, for instance, must run the gauntlet of customs at New York, even though he may be on the ground and in the United States only for the hour or two it takes him to make plane connections for the remainder of his trip. The airlines sincerely hope that the same recommendation will be made for other American gateway airports, and will be eventually applied to all international airports throughout the world.

The United States survey party, composed of representatives of all Government departments concerned with border and entry regulations, conferred with Canadian Government officials and airline representatives as part of a survey of customs and immigration rules and enforcement at 19 gateway airports. They were led by Harry G. Tarrington of the CAA.

The group announced that it would recommend to the respective agencies and to Congress a number of reforms, including increases in personnel, larger duty free allowances for United States citizens and foreigners, elimination of head tax in some cases, and simplification of paper work.

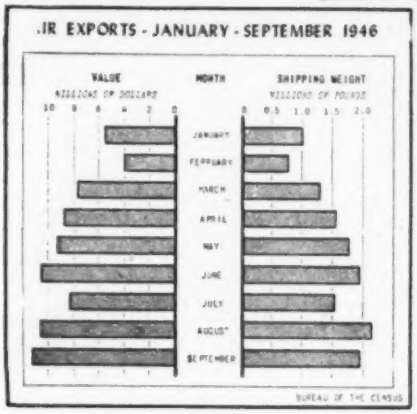


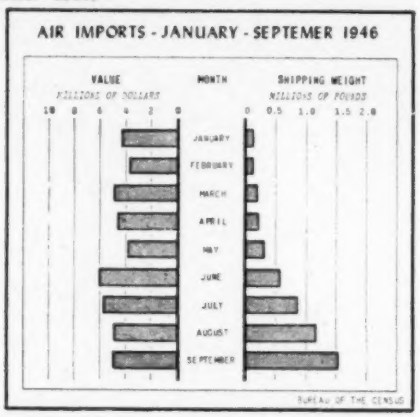
Captain Kenneth P. Behr, manager of LaGuardia Airport (wearing light coat), greeting Harry G. Tarrington of the Civil Aeronautics Administration, representing a group of capital officials studying ways and means of speeding up entry and clearance of passengers and cargo at United States air gateways. Others in the party are (left to right) Dr. Gilbert L. Dunnahoo, Public Health Service; John R. Young, Air Transport Association; Albert E. Reitzel, Immigration and Naturalization Service; Burke H. Flinn, Customs Service; Horace S. Dean, Department of Agriculture; Huxley H. Galbraith, International Air Transport Association; and George S. Knight, State Department.





[REG. U. S. PAT. OFF.]





The Bureau of the Census, Department of Commerce, reports that "the value of air exports rose seven percent from $10,527,000 in August to $11,306,000 in September, the highest for any single month in 1946" up to that month. The rise was due chiefly to increases of $1,124,000 and $334,000 at LaGuardia Field and Fort Worth. There was a decrease of air exports at Miami. Although the value rose, shipping weight of air exports dropped 10 percent. The shipping weight of merchandise imported by air went up 31 percent from 1,174,000 pounds in August to 1,537,000 pounds in September. This was a new high for the first three quarters of 1946.

CAPITAL-PCA

Air freight and express flown by Capital Airlines-PCA reached a new all-time high in December. Air freight ton-mile volume was up approximately 76 percent in December over the November figure, while express per ton-mile was up nearly 57 percent over the previous month. During December Capital flew 282,461 ton-miles of express compared with 180,234 ton-miles in November. December air freight figures were 152, 517 ton-miles against 86,619 ton-miles in November. In New York City, Capital's daily outbound air freight during December jumped 61.8 percent over the daily shipments in November.

COLONIAL

Colonial Airlines carried 154,971 passengers —a total of 45,592,520 revenue-miles—during 1946, an increase of 66 percent over the preceding year. Increases were also registered in mail and express carried. Pound-miles of mail flown amounted to 175,796,595, a jump of 41 percent over the preceding year. A total of 111,205,950 pound-miles of express flown, showing an increase of 63 percent.

EASTERN

Eddie Rickenbacker, president and general manager of Eastern Air Lines, announced that the company has arranged a $20,000,000 five-year revolving bank credit with a group of 27 banks located in cities on Eastern Air Lines system. The group is headed by the Chase National Bank of New York. The loan agreement is based on $20,000,000 being made available over a period of two years and evidenced by revolving credit notes bearing interest at 1½ percent per annum, with a ¼ of one percent commitment fee applying to the unused balance. At the end of two years, term notes will be issued by the company covering the total amount outstanding under the agreement, payable in 12 equal quarterly installments over the following three years and bearing interest at 1¾ percent, with the right of prepayment without penalty.

MARTIN

The Glenn L. Martin Company entered 1947 with a $201,000,000 backlog of business, an increase of $84,000,000 over the $117,000,000 backlog which was on the company's books on January 1 1946. The Martin Company's backlog is the largest in its history except for the recent war emergency years. While it includes the largest total of postwar commercial airliners on order from any company in the world, the major percentage of the company's backlog still is made up of orders for advanced type Army and Navy airplanes.

PAN AMERICAN

Passenger traffic over Pan American World Airway's Latin American routes during 1946 almost doubled that of the preceding year and showed a 310 percent increase over 1941, the last prewar year of operations. The airline's first full postwar year of operations saw a total of 738,850 passengers carried on all routes—89 percent above the 1945 total of 390,426 and 310 percent over the 180,220 passengers carried in 1941. The year-end figures included estimates for the last few days of December.

In passenger miles flown during 1946, Pan American showed a 71 percent increase over 1945 and a gain of 459 percent over 1941. The totals were: 525,047,073 passenger-miles during 1946; 306,107,550 during 1945, and 93,951,697 during 1941. Also reflecting the expansion in postwar operations were the total ton-miles flown during the year—up 450 percent over 1941 and 68 percent over last year. The 1946 ton-mileage flown totaled 66,348,241, compared with 39,518,746 ton-miles in 1945 and 12,062,302 in 1941. Biggest percentage of increase in any department was in the PAA's air express division, where total shipments rose 761 percent from 1,754,014 pounds in 1941 to 15,106,845 pounds in 1946. Last year's air express totaled 11,630,846 pounds. Despite the sharp decline in overseas soldier mail after the end of the war, air mail shipments during 1946 showed a slight gain over 1945. Air mail carried on all of PAA's Latin American routes in 1946 totaled 3,482,804 pounds, compared with 3,334,841 in 1945 and 1,244,293 back in 1941.

SCANDINAVIAN

Operational statistics released today by the Scandinavian Airlines System show that during the three months of its operations during 1946 its passenger load represented 73.7 percent of capacity while air cargo mail and baggage amounted to 99.8 percent of capacity. The overall load for passengers, cargo, mail and baggage represented 83.6 percent. SAS reported that despite December's adverse weather 59 percent of all arrivals and 68.7 percent of all departures were within one hour of schedule.

WESTERN

Western Air Lines reported that it more than doubled scheduled miles flown and total passengers carried in 1946, as compared with 1945, maintaining an operating efficiency of 96.08 per cent. The year's scheduled miles flown number 10,504,980; total passengers number 565,794.

Equally large gains were made in other traffic phases with 311,379,000 total seat-miles for 1946 as against 138,852,497 miles for 1945. Revenue passenger miles total 220,597,000 for 1946 and 117,105,887 for 1945. Non-revenue passenger miles for the same years respectively are 3,523,000 and 1,369,026. These figures result in a passenger load factor of 70.85 percent for 1946 and 84.34 percent for 1945. Increases were also recorded in total revenue-miles flown with a figure of 10,600,328 for 1946. Non-revenue miles flown were 675,130. The percentage of non-revenue miles flown to total miles flown is 6.37. The statistics for 1945 were 7,279,009 revenue miles, 434,034 non-revenue miles resulting in 5.63 percent of non-revenue miles to total miles flown.

In the cargo division the mail tons carried dropped to 1,817.8 from a 1945 figure of 3,347.4. During 1946, 695,323 mail ton-miles were flown while 1,120,184 mail ton-miles were totaled in 1945. A total of 1,102.8 express tons carried over 447,538 express ton-miles marks an increase over the record for 1945 with 738.4 express tons and 306,565 express ton-miles. Only 12 tons of air freight were carried in 1945, but 522 were recorded in 1946.

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Talewind

By JOHN F. BUDD, JR.

EDITOR'S NOTE: With airlines traffic and sales problems pushing into the spotlight, this new contributed feature comes at a particularly apt moment. Its purpose is to act as a clearing house of information, to accelerate the organization of Airlines Traffic Clubs in every city with an airport, and to consolidate the action of these clubs for the good of the air transportation industry.

THE airlines today, with the mantle of a glamor industry rudely torn off and facing repeated sniping from outside, are keenly aware that the lush war years are over. The immediate need for filling those "empty seats" calls for a rebirth of sales promotion techniques and staffs, both of which have suffered from disuse. Slated to shoulder much of the responsibility are the traffic and sales representatives. The policy makers are probably glancing apprehensively at their sales forces, for during the years of priorities and the sellers market not much attention was paid to these men, and as a result they never have had much chance to demonstrate what sales ability they might have.

One could point out that some mighty fine executives have graduated from the ranks of the pavement pounders—men such as Merrill Redfern, who before he became vice president of the ATA was a United traffic man; Walt Sternberg and Herb Ford of American; Leon Morrier of United and more recently in New York; Pete Mellon, TCA's new district traffic manager in New York; Don Bateman, Northwest's new DTM in Manila; and Tom White, now agency manager for the Great Lakes Division of Eastern. If these alumni are any indication, it would seem that the airlines have no cause for anxiety. Yet little mention, if any is ever made of these "good will ambassadors" of the airlines. One might consider them forgotten men but for the fact that they are now coming into their own. They have formed their own associations and prepared for the job ahead. The purpose of this column will be to cover fully these traffic and sales representatives and the clubs which they so progressively have formed.

EASTERN'S DAY



Eastern Air Lines' first plane—a Pitcairn PA-5 Mailwing—and its new four-motored DC-4 stand side by side in the new $750,000 hurricane-proof hangar of EAL'S new operations and maintenance base at the International Airport, Miami. Some 10,000 persons attended the formal opening of the base.

Twelve years ago, in Washington, airlines traffic representatives decided over a few cups of coffee that by combining their talents they might give the industry a push. This was, as far as we can ascertain, the first Airlines Traffic Club to be formed. Eight years later the New York representatives organized their own Airlines Traffic Club which was to last three years until 1935.

The members of these first groups were actually the DTMs of the airlines, but as traffic and sales forces were not then developed as we know them now, they were the "streetmen" of the airlines. It wasn't until 1945 that the first formal organization of strictly traffic and sales representatives was formed. At that time those representing the airlines in New York met occasionally at informal places. They didn't have a club such as the Wings Club, of which their bosses were members; a table in the corner of a lunchroom was their lounge. But, under the stimulus of Jack Forsythe of TWA, now DTM in Philadelphia, the basic idea for the new Airlines Traffic Club of New York was conceived.

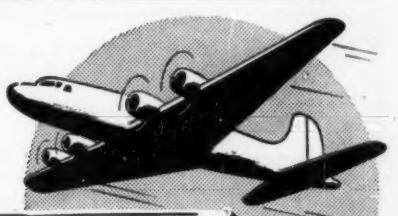
Other groups have followed the example set in New York and next month this column will review the history of the airlines traffic clubs and introduce the newest additions. Dick McIntosh of Pan Am and president of the Airlines Traffic Club in New York feels that the nation's biggest city should continue to take the leadership and establish, ultimately, a national organization of airline traffic clubs with headquarters in New York. This column, we hope, will be a means of coordinating these outlying clubs for that purpose.

Air Express Service To Turkey is Begun

The establishment of weekly international air express service from New York City to Ankara, Turkey, via Pan American World Airways has been announced by the Air Express Division, Railway Express Agency. Through direct connections with the 67,000-mile network of the regularly scheduled domestic airlines, the new service is made available to shippers located throughout the nation.

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IT'S AN *Air* WORLD

[REG. U. S. PAT. OFF.]

By L. A. GOLDSMITH, *Economic Analyst*, AIR TRANSPORTATION

Some sidelights on Linea Aeropostal Venezolana, now flying Connies and DC-4s between Caracas and New York with Montreal very much in mind as an additional port of call.

YOU can now fly direct from New York to Havana and Caracas every Monday, Wednesday and Friday, taking off from LaGuardia Field at 6 p. m. This new air flight service has been established by the International Division of Linea Aeropostal Venezolana, official airline of the Venezuelan Government.

LAV is the first South American airline to establish regularly scheduled commercial flights to and from the United States and other countries in the Western Hemisphere. On southbound flights from New York it takes only five hours nonstop to Havana, and from there on to Caracas, 11 hours all told. On northbound flights from Caracas, the flights are scheduled for Tuesday, Thursday and Sunday.

Even Christopher Columbus succumbed to the charm of Cuba. According to historical records, he described the island as "the most beautiful land ever beheld by human eyes." Somewhat lyrical, perhaps, but only the forerunner of later geographers who rhapsodized over the *Queen of the Caribbean* and the *Pearl of the Antilles*. Next time Caracas might be so favored for a weekend, even though the longer time required for flight would only allow a day-and-a-half in Caracas.

The planes used by LAV on these flights are two *Constellations* and four *Skymasters*. There are more *Constellations* on order. A typical LAV crew consists of a pilot and copilot, engineer, radio man, and two stewardesses. All are North Americans with the exception of the radio man who is Venezuelan. In addition to the usual qualifications demanded for this type of work, the stewardesses are also bilingual, speaking both English and Spanish.

While LAV's scheduled operations started in January, there had been some charter flights a few months previously. Of course, as the officials of the line are quick to point out, they are by no means novices in air transportation. They have been flying nationally in Venezuela for the past 16 years. LAV's planes also go over the Venezuelan border to the Colombian city of Cucuta, which, from the industrial viewpoint, is in the Venezuelan orbit.

The name, Linea Aeropostal Venezolana, is somewhat misleading; the word Aeropostal might give the impression of an exclusive air mail carrier. The general manager of the International Division, Girard Quintero, whose headquarters are in New York, points out that despite the company name, it offers a complete air transportation service—passengers and cargo. The *Constellations* have a capacity of 43 passengers and 7,000 pounds of freight.

Meanwhile LAV is preparing for the extension of its route farther north. Within a short time, Montreal will become another port of call. Then it will be Caracas-Havana-New York-Montreal, making LAV a connecting link with four countries.

In the short time that LAV has been flying the New York-Caracas route it has hung up a speed record of seven hours and 28 minutes nonstop. There had been a number of postponed flights because of bad weather, and the built-up backlog of passengers caused LAV to put through the nonstop flights to make up for lost time. It was at this time that the new speed mark was established.

The strengthening social and economic ties between North and South America stand LAV in good stead. Venezuela is definitely a major cog in the hemispheric wheel, and transportation-wise LAV is playing an all-important part. One does not need the mystic powers of a clairvoyant to foresee greatly increased business and tourist travel, not to mention tons of freight on the wing.

Electric Boat Company Enters Aircraft Field

Taking over complete production of the four-motor *North Star* now being manufactured at Montreal for Trans-Canada Air Lines and the Royal Canadian Air Force, the Electric Boat Company has entered the aircraft manufacturing field.

The plane was developed over the past two years by the Canadian Government and the Douglas Aircraft Company. It is now being produced by Canadair, Ltd. It was designed specifically for high-speed, nonstop, transcontinental and transatlantic flights by TCA.

Electric Boat has retained the services of H. Oliver West as president and general manager of its new Canadian subsidiary, Canadair, Ltd. Until recently he served as executive vice president of the Boeing Aircraft Company. The new chairman of the board of directors is John Jay Hopkins, vice president of Electric Boat, who negotiated the transaction with the Canadian Government. He is a former assistant to the Secretary of the United States Treasury.

Electric Boat is recognized as the largest producer of submarines in the world; also created the famous PT boat for the United States Navy.

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IATA Decides Transatlantic Fares Remain at 9½¢ Mile

Despite rising costs of operation, transatlantic fares will remain at their present level of 9½ cents a mile, according to a decision by the airline members of the North Atlantic Traffic Conference of the International Air Transport Association.

Resolutions on which existing conference rates, conditions of carriage and other traffic matters are based expire on February 28 and were subjected to review by the fourth meeting of the North Atlantic Traffic Conference concluded in New York. Participation by American-flag carriers in the IATA conferences for another year after February 28 was approved by the Civil Aeronautics Board.

John E. Slater, retiring chairman of the conference, and chairman of the board of American Overseas Airlines, said that during 1946 the airlines could not, for various reasons, produce transatlantic service in the volume contemplated, which in turn kept unit costs above estimated levels. Analyses of last year's costs show too many temporary and variable factors to be a valid base for a new scale of fares at this time, he said. The present rate, based on a one-way fare of $325 between London and New York, was set last June on the basis of estimating traffic volume and costs for the ensuing eight months. During 1946, payload actually available fell below estimates, while for a number of reasons, the cost of handling each unit of payload rose.

Factors which contributed to this situation, Slater declared, were delay in deliveries of equipment; difficulty in obtaining spare parts; fluctuations in some currencies; the grounding of the Constellations in mid-July; and high commodity prices and wages. He said that the present conference resolutions on fares, conditions of carriage—including discounts, free baggage allowance, etc.—and agency conditions, would be submitted without substantial change for reapproval by interested governments.

The conference also voted that each member airline may submit to its appropriate governmental agency on a confidential basis the cost figures for all lines, in the same form and detail as used by the conference itself in the determination of rate recommendations. Slater pointed out that the guiding principle of IATA rate policy is that fares must bear a reasonable relationship to the cost of operation.

Canadian passengers living east of Montreal will benefit by slightly lower transatlantic fares as the result of a decision to establish Sydney, Nova Scotia, as an additional gateway point for computation of rates for flights between Canada and Europe.

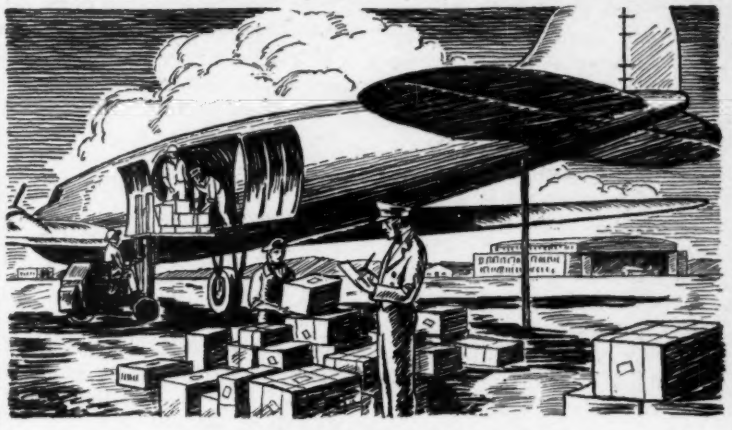
Vernon G. Grudge, regional director, West Atlantic, for British Overseas Airways Corporation, was elected chairman of the conference for 1947, to succeed Slater. Gordon R. McGregor, general traffic manager of Trans-Canada Air Lines, was named first vice chairman; and Dean J. Hanscom, director of traffic, International Division, TWA, was elected second vice chairman.

Det Danske Luftfartselskab A/S and Det Norske Luftfartselskab A/S were admitted to full membership in the conference. SABENA, the Belgian airline, was admitted to non-voting membership.

Argentina Purchases 15 Sikorsky Helicopters

The Sikorsky Aircraft Division of the United Aircraft Corporation and representatives of the purchasing commission for the Argentine Government, have revealed the largest export sale of helicopters ever made. Fifteen standard four-place Sikorsky S-51s are involved in the transaction.

On delivery, the helicopters will be assigned primarily to search and rescue service. Provision will be made to use the equipment for spraying, dusting, aerial survey and other purposes that will be of assistance in agriculture. Deliveries will not begin until later in the year because of the backlog of orders, both military and commercial, already on the books.



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What Air Freight Carriers Can Expect

(Continued from Page 36)

5⅛" x 2". Depending on the size of the order, a quantity of these containers are placed in cartons for shipping.

Neckwear, scarfs and handkerchiefs are other accessory items which are promising with regard to air potential. Well over 90 percent of neckwear and scarfs, and about 70 percent of handkerchiefs are manufactured in the New York metropolitan area. A large part of this industry is concentrated in the dress and suit district, and other portions are scattered through the undergarment area and along Fifth Avenue.

Neckwear and scarfs are style items and can be expected to generate relatively more air traffic than handkerchiefs. These items are light in unit weight and are packed rather loosely in large bulky packages. Many retailers ask that their shipments be allowed to accumulate until they reach 75 to 100 pounds, so that they can benefit by lower rates. All persons connected with this industry, who were interviewed, stated that a considerable portion of this merchandise would move by air if rates approached Railway Express charges. It was believed that the bulk of air shipments would occur before Christmas and Easter.

The manager of one neckwear firm stated that he had been shipping by air for three years. He started using air when a blizzard tied up surface shipping and was gratified by the rapid delivery and good service he received. He believed that eventually all this type of merchandise will be shipped by air because "it is so much more convenient and saves half the trouble in packing." He added that *the goods are not crushed when shipped by air as they are when transferred from one railroad car to another, and that the speedy delivery gives the merchant an added three days of sales time.*

There's Method At MacArthur

(Continued from Page 14)

foreign flag carriers will install terminal facilities. Said an official of the airport:

"The opening of Idlewild Airport, for which no definite date can be set at the present time, has caused some concern to the MacArthur management; but closer study based upon the facts of airline operating experience seems to provide no serious hindrance to MacArthur's plans because of the historical weather data that have applied to the Idlewild location for years. The facts indicate also that while there has been much talk about solution of doubtful weather operations, there is actually no system immediately at hand or in sight which the CAA will care to license for regular use by American companies carrying paying passengers.

"Until such a system is available, the operators of MacArthur Airport feel that their ceiling and visibility advantages, plus the complete lack of industrial smoke at their location, will continue to be advantageous to their plans. The Sperry Flight Research facility continues its operations at MacArthur Airport in the meantime, and it is logical to assume that the airport's management can maintain a most realistic estimate of current developments in the field of doubtful weather landing and traffic aids."

Capital-PCA Comes Through With New Air Cargo Wrinkle

A new setup called "Assembly and Distribution Service," designed to save an average of 25 percent on the shipping costs of manufacturers and distributors, will be offered by Capital Airlines-PCA. Under this system, large companies could refill orders overnight and operate with reduced inventories. The new service will enable consignees to place orders with many different factories in a certain city, and have them assembled, flown, and delivered to their door as a single shipment.

Don't Play Down Terminal Facilities

(Continued from Page 8)

fundamental changes ahead. It is inconceivable that the industry can handle the volume of traffic it is certain to have in the next five or 10 years with the methods of ground handling currently employed. And if this is so, it would be folly to freeze in steel and stone the present operating patterns.

That the airlines realize the problem which confronts them can be judged from the fact that within the past few months they have formed a national terminal corporation.* For the moment it is merely an instrument—but it is an instrument capable of dealing with the problem I have outlined. The decision to form this corporation was based on a study which I conducted for them of some of the problems which I have outlined.

I am not a prophet and will venture no prophesy as to what this new corporation will do. It has a wide open field ahead of it to meet some of the most insistent problems which now confront the industry. It is an indication that the industry is aware of some of the criticisms which have been leveled against it—many of them, I think, unfairly.

No one, 10 years ago, would have dared to forecast a volume of air travel such as 1947 is witnessing, or the even greater volume which the next five years will bring. The war has accelerated the growth of air travel, but the war also made it utterly impossible to provide the ground facilities which today's volume of travel requires. The airlines are not to blame for this basic condition. They will, however, be to blame if, five years from now, they have failed to catch up with the problem.

* See November, 1946, AIR TRANSPORTATION.

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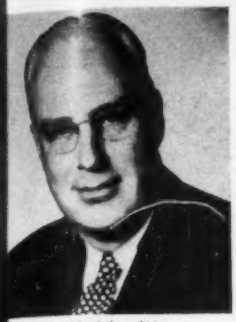
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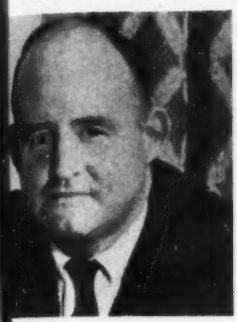
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★ EXECUTIVE ★

CHARLES E. BEARD, elevated to the position of executive vice president of Braniff International Airways. An 18-year aviation industry veteran, he has headed Braniff's traffic activities since 1935.

KINSEY N. MERRITT, general manager of public relations for the Railway Express Agency, appointed vice president-traffic. He has been in the express business all his life.

MAULSBY FORREST, economics and financial consultant, elected a vice president and treasurer of American Airlines. He is a veteran of both World Wars.

JULIUS J. DOMONKOS, manager of Bell Aircraft Corporation's Burlington Division, elected a vice president of the firm. He has been in the aircraft industry since 1923 when he was employed by the Glenn L. Martin Company.

ALEXANDER KARTVELI, elected a member of Republic Aviation Corporation's board of directors. He has been a vice president and chief engineer of Republic since 1939. Previously he had been connected with the Seversky Aircraft Corporation.

GLENN H. McCARTHY, Houston business man, elected a member of the board of directors of Eastern Air Lines.

P. W. BRADFORD and **HARRY HILL,** elected vice presidents of The American Express Company. Bradford is serving as general manager in London, and Hill in a similar post in Paris.

JAMES P. CUNNINGHAM and **EUGENE W. NORRIS,** advanced to the respective positions of vice president in charge of production and vice president in charge of engineering for the Luscombe Airplane Corporation.

FREDERICK G. BETTS, appointed assistant to the executive vice president of TWA. During the war he held the rank of colonel and served as Chief of Staff for the Eighth Fighter Command in Belgium. He has been with the airline for nearly two decades.

JOSEPH F. McCARTHY and **C. C. "CHET" PEARSON,** named by the Curtiss-Wright Corporation to the respective posts of treasurer-controller and general manager of the Airplane Division.

ERLE MARTIN, elected general manager of the Hamilton Standard Propellers Division, United Aircraft Corporation. He joined the organization 16 years ago.

ANDREW F. HAIDUCK, named general manager of the Duramold Division, Fairchild Engine and Airplane Corporation. Haiduck was associated with the Bellanca Aircraft Corporation for 17 years.

DONALD A. DUFF, formerly executive assistant to the president of Continental Air Lines, now serving as assistant to the president of Monarch Air Lines. He has also been connected with Northeast Airlines and PCA.

CHARLES H. MURCHISON, Florida lawyer, appointed general counsel for Capital Airlines-PCA.

JOHN T. PLUNKET, former assistant to the president of Aerovias Braniff, named assistant to the general counsel of Braniff International Airways.

MAJOR H. K. DE GRAAF, named superintendent of the Pacific Division of Royal Netherlands Indies Airways.

WILLIAM M. THOMPSON, former executive of Parks Air College and Parks Aircraft Sales and Service, now serving as administrative assistant of the Brayton Flying Service.

GEORGE T. ECKART, appointed administrative assistant to the president of Winged Cargo, Inc.

★ ADVERTISING ★ PUBLIC RELATIONS

WILLIAM A. MARA, appointed director of advertising for the Bendix Aviation Corporation. A former editor of the *Detroiter*, he has been associated with aviation for 20 years. He joined Bendix in 1944.

LEONARD S. KIMBALL, named acting director of public relations for Tran World Airline's Transcontinental Division. Kimball, a former newspaperman, has been with TWA since 1944.

JOHN T. WETZEL, appointed assistant to the general manager in charge of public relations and special assignments for the Curtiss-Wright Corporation.

STANTON FITZNER, named publicity assistant for Braniff. He is a former newspaper reporter.

GEORGE B. POTTORFF, for three years associated with Pan American Airways' traffic department in Hawaii, appointed public relations representative in the central Pacific district.

★ TRAFFIC ★

EDWARD G. SERLE, named manager of Royal Dutch Airlines' Agency and Interline Department. A veteran transportation man, he was associated with American Overseas Airlines before coming to KLM.

LEWIS E. LANGDON, promoted to the position of China traffic manager at Shanghai for Northwest Airlines. A Navy veteran, Langdon was previously connected with United and Pan American.

BARNEY WILLIAMS, general agent for the Missouri-Pacific Railroad's freight traffic department, now with Slick Airways as general traffic manager. He is a graduate of St. Louis University.

PAUL C. WELCH and **JOHN B. MALINEE,** appointed by Mid-Continent Airlines to city traffic managerships in the respective cities of Houston and St. Louis.

RAY STAMPS, named district traffic manager for Braniff International Airways at Kansas City, Missouri; and **WARREN E. KRAEMER** and **DONN DEARING,** who have joined the airline's Latin American Traffic Division.

RICHARD D. TODD, appointed station traffic manager in Bermuda for Pan American. This is his second Bermuda assignment.

★ OPERATIONS ★

CAMERON T. ROBERTSON, appointed superintendent of flying for American Overseas. Robertson was the chief test pilot of the original Martin *Mars*.

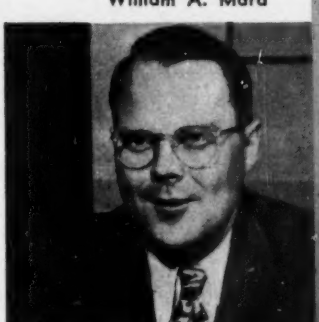

Glenn H. McCarthy


Joseph F. McCarthy


C. C. Pearson


Donald A. Duff


William A. Mara


Leonard S. Kimball



John T. Wetzel



Edward G. Serle



Lewis E. Langdon



Barney Williams



Gerald Bloom



Stanley I. Schonb

H. F. BLACKBURN, named assistant manager of TWA's overseas operation; and **PAUL FREDERICKSON,** new superintendent of the flying operations staff based at Kansas City.

★ PASSENGER ★

MART I. FOWLER, promoted to the post of director of passenger service for Capital Airlines-PCA. This is a newly created department.

RUSSELL G. PETTITE, named by TWA as superintendent of reservations. He returned recently after being on loan to Aer Lingus for six months.

★ SALES ★

HERBERT D. FORD, WALTER STERNBERG, HERBERT J. LYALL, and **STEVEN NOBLE,** appointed by American Airlines to the following posts; Ford, regional director of passenger sales; Sternberg, director of passenger sales; district sales manager in New York; Noble, supervisor of passenger sales in New York.

OWEN F. JOHNSON, who has been with PAA for 12 years, elevated to the position of sales manager of the airline's Atlantic Division.

BERT W. HOLLOWAY, succeeding Roy Campbell, Jr., as sales development manager of the Lockheed Aircraft Corporation.

NORMAN NICHOLSON, appointed manager of dealer sales for the Pacific Airmotive Corporation. He comes to the firm from Globe Aircraft.

★ MISCELLANEOUS ★

STANLEY I. SCHONBRUN and **GERALD BLOOM,** serving respectively as president and general counsel-secretary of Aeroutes, Inc., a firm offering economic research for air transportation.

MAJOR GENERAL OLIVER P. ECHOLS, selected as president of the Aircraft Industries Association of America.

LIEUTENANT COLONEL WILLIAM L. RICH, appointed acting secretary of the Aviation Section, New York Board of Trade.

VANDA ARENDT, assistant treasurer of Emery Air Freight, elected secretary of the corporation.

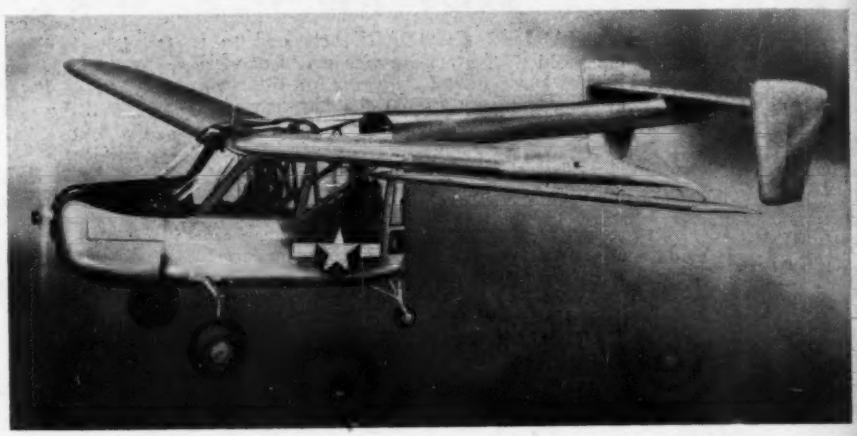
H. ARTHUR HOOK, appointed assistant administrator for airports, Civil Aeronautics Administration.

JOHN H. GERSTENBERGER, sales representative for United in New York, named secretary of the Airlines Traffic Club of New York.

JACK I. BERNSTEIN, formerly vice president of Atom Advertising Agency, now with Norman D. Waters and Associates.

ALEXANDER H. MOSSMAN, formerly assistant advertising manager of PAA, now associated with Wendell P. Colton Company.

BOEING L-15A LIAISON PLANE



Specifically designed for liaison work, this plane is now in production at Boeing Aircraft's Wichita plant. It is powered by a 125 horsepower Lycoming engine, has a 40-foot wingspan, and weighs slightly more than a ton. The L-15A may be quickly disassembled by removing the wings, boom and tail section, and the wheels can be turned inboard for stowage on a 2½-ton truck. It will take off and clear a 50-foot obstacle in 600 feet, and will land over an obstacle of the same height and come to a full stop in 247 feet. Cruising speed is 101 miles an hour and top speed 112 miles an hour. The plane has been ordered by the AAF for use by the Army Ground Forces.

Air Cargo-Conscious Britain

(Continued from Page 22)

of 665,000,000 ton-miles—30 times more than in 1946.

British charter companies have been kept busy during the Summer bringing peaches, figs, grapes, pears and other fruit to England from the Continent. One firm alone has been flying fruit to Croydon from the south of France at the rate of more than 15 tons a week, using a twin-engined Bristol *Freighter,* one of Britain's "thoroughbred" cargoplanes.

Another busy charter firm is Air Contractors, Ltd., which runs a fleet of Miles *Aerovans* and which has ordered a large number of the same firm's four-engined *Merchantmen.* Cargo carried recently by this firm included a new car (to Guernsey) and two show ponies (from Midhurst to Reading). Soon the cargo-carrying model of the new Airspeed *Ambassador* will be joining the *Freighter* and the *Aerovan* in the ranks of Britain's built-for-the-job air trucks.

The United States, too, has its specialized freight planes, including the Fairchild *Packet* and the huge new 67-ton Boeing Stratofreighter, which, the makers claim, will carry 19 tons of cargo at a direct operating cost of less than 3d. a ton-mile. A cargo version of the new *Stratocruiser,* it will have on its two pressurized decks four separate holds which can be heated or refrigerated independently of one another.

For the *Freighter,* which costs only a shilling a ton-mile to operate even when less than three-quarters loaded, the Bristol Aeroplane Company has invented a special method of freight handling which goes a long way towards solving the problems of packaging, ground-handling, anchorage, and accessibility on the journey.

It involves the use of cube-shaped collapsible box containers of varying size in light alloy which fit into the plane without wasting space or weight; containers with sides of metal mesh for such awkwardly shaped things as barrels and tires; and containers with "skeleton" sides or built-in collapsible sections for use in furniture-removal and similar work.

The use of cargo-carrying helicopters and glider trains based on invasion practice is not being overlooked. And parachutes will be employed in some areas for off-loading urgent commercial deliveries outside towns not served by convenient airdromes.